

PRACTICAL DIRECTIONS
TO
GENTLEMEN AND TRADESMEN
FOR
KEEPING AND MANAGING HORSES:

WITH THE
CARE REQUIRED BEFORE AND AFTER A JOURNEY.

THE TREATMENT OF
DISEASED HORSES,
AND THE CAUSES, SYMPTOMS, AND BEST MODES OF CURE,
OF THE SEVERAL DISEASES.

TO WHICH ARE PREFIXED,
PLAIN DIRECTIONS FOR THE CHOICE AND PURCHASE OF
HORSES,

WHETHER INTENDED FOR SADDLE OR HARNESS;
HOW TO
ASCERTAIN THE GOOD QUALITIES, AND DETECT THE FAULTS OF
CARRIAGE, GIG, CART, AND SADDLE HORSES.

BY JAMES MILLS, M V C S

WITH ENGRAVINGS,
EXPLANATORY OF THE ANATOMICAL STRUCTURE OF THE HORSE;—THE
FORMATION OF THE FOOT,—AND BY THE TEETH, &c

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THE

HORSE KEEPER'S GUIDE.

VARIED FORM OF THE HORSE.

He who wants a horse, and wishes to avoid disappointment, would do well before he goes to market, to have made up his mind as to the work he requires him to perform, and seriously ask himself this question—"What sort of a horse do I want?" do I require speed, strength, or show?" Let him rest satisfied if he obtain the one leading requisite, and bear in mind the important fact, that the very qualities which render him pre-eminent calculated for a particular service, unfit him for others.

Every horse is suitable for some purpose, and the proof of judicious discrimination in a purchaser, is, so to choose his horse, that he shall be the most suitable for the duty he will have to perform.

Nature and art, by striking and great variations in the structure and proportions of the horse, appear to have pointed out the station which the different tribes of this most valuable servant are each destined to fulfil; yet man too often persists in slighting these great principles; and hence, mortification, expense, and discomfort await his perversity, in not making himself acquainted, as far as lies in

his power, with the lessons placed before him. Not one horse in a thousand is equally well adapted for saddle and harness, for speed and strength; and we shall here endeavour to put the reader in possession of the principles upon which a sound judgment of his fitness or unfitness for any given purpose may be formed.

To judge of proportion we must have a knowledge of the service for which the horse is required. There is one conformation for slow and heavy draught; a second for lighter and quicker work; a third for a hackney, a fourth, with more speed and equal endurance, for a hunter; while a fifth is wanted for the racer. Each one possessing its own peculiar style of beauty; and each has its peculiar pre-eminence where properly employed.

Many purchasers are as incapable of appreciating the general qualities of a horse, and his fitness for a certain purpose, as they are of deciding on his soundness or unsoundness; and in their purchase, the greater part, if not the whole uncertainty, as to the ultimate result of the transaction, arises from the buyer's want of judgment, and the expectations he forms of perfection in every quality, yet there are few subjects on which men are so positive and self-sufficient as this.

If he have to carry weight and much to do, we desire a short back; that he be well-ribbed home; (that is, the ribs reaching to within a short distance of the haunch bone,) and that his pasterns be short.

If speed is required, there must be room for the full action of the hinder quarters, which are the propelling power; we then require a long back and oblique scapula and pasterns; thus, if strength is

required, we purchase it at the expence of elasticity; and elasticity is obtained at the expence of strength. But whatever the services required, whether Action, Safety, or Strength, it is dependant on certain fixed rules.

Action depends on the length and direction of the various parts of the bony fabric as opposed to each other.

Safety is connected with the degree of perfection in the form and direction of the limbs, united with a just proportion of the length.

Strength is the result of muscular contractions on organs adapted for motion. Let us now consider the application. In

THE RACE HORSE we seek *length* and elasticity of form, a long and oblique blade bone; a short shoulder bone, a long arm-bone; a short cannon; long springy pasterns; and ample muscular quarters.

With this formation, velocity is attained, at the sacrifice of safety as regards carrying its rider, and strength as regards bearing burdens and drawing loads.

The gallop of a race-horse is but a succession of leaps; and all animals remarkable for their velocity in this motion (as the greyhound and hare) are found comparatively low before, and high and powerful behind.

The whole endeavour of the breeder has therefore been, to mould his form, and fashion his organs for that purpose; and to condense into the smallest possible space, the greatest possible bulk of muscle and bone.

But the perfection of a race horse, as in all animal of speed and endurance, consists in his wind, without which the utmost perfection of form would be valueless; and here it is that external form is an indication of internal structure.

The contractibility of muscular fibre is intimately connected with the extent of respiration in all animals. In the lower order of animals, where there is little motion, respiration is feeble; where there is great motion, as in birds, we find the air permeants every region of the body. It is impossible, therefore, we can have great speed or power without large lungs and a powerful heart, which are indicated by the size and capacity of the chest.

It is a well-known fact that in proportion to the redness of muscle, among the higher order of animals, so is their strength, and their redness is dependant on their supply of arterialized blood: the muscles are of a higher color in stallions then in geldings, and there is a great increase of strength given to muscles by the testicles; and mares are generally supposed to be stronger then geldings.

Upon the size of the lungs and heart, principally depend the strength and soundness of the animal. In proportion to their size, is the power of converting food into nourishment, and upon the facility with which they assimilate vegetable matter to blood, is their power of reproducing and supplying the waste of nervous influence, and substance expended by great exertion,—for which

“The watchful appetite was given
Daily with fresh materials to repair
The unavoidable expense of life
The necessary waste of flesh and blood.”

In Eclipse, the most famous horse, as a Racer, this, or any other country ever saw, and whose performances were of such a pre-eminent description that neither the ancient Hippodrome, or the annals of the modern race-course can furnish a parallel; that of not only beating, but *distancing*,* the best horses of his day, and whose exact speed was never known, as no horse could be found to compete with him, we find three points, which we have dwelt upon as an excellence in the race horse, developed to an extraordinary degree.

It was remarked as a peculiarity by those who saw him run, that his hind legs were very wide, and separated in his gallop; which formation was of old noticed by Xenophon, as one of the indications of power in the horse.

The principal requisites in the race horse are that he possess good blood, good speed, good temper, a sound constitution, and strong and fleet limbs. He should not be taller than fifteen hands† high, so that he possesses length with good substance.

In the selection of the HUNTER, we desire to combine the qualities of speed, with as much additional bone and muscle as will enable him to carry weight, and support it, during a long course of fatigue and privation. To achieve the first, we desire good blood, (which insures bottom) and that peculiar small head of the blood horse, which makes him light in hand. Like the racer, he must have long muscular quarters,

*A distance is the length of two hundred and forty yards from the winning post.

†A hand is a measure of four inches.

be well let down in the thigh, with his hocks well bent under his top to propel him in the gallop. But for the second we require another form from the racer, an elevated and muscular forehead.

The height of the withers is dependant upon the length of the spines of the dorsal vertebra, and their length is of great importance in giving a long lever to the dorsal muscles, which are the grand agents in elevating with rapidity and power the fore limbs in leaping, and carrying weight over a heavy country. His arms must be muscular, and as in the racer, strength is sacrificed to flexibility; so, in the hunter, we seek strength at the expense of flexibility. Therefore his legs should be shorter, and his pasterns less long, and oblique than in the race horse, his body shorter and closer robed home, giving him a quicker action. In horses to live across a country should go with quick collected step, the lengthened stride of the racer allowed by a long back and contracted belly would soon exhaust and sink the hunter injuriously in deep soil. He should not be under fifteen or more than sixteen hand high. Below this standard, he cannot always measure the object before him, and above it, he is apt to be awkward.

His barrel should be rounder, to give greater room for the heart and lungs to play, and the chest deep and broad, for reasons before mentioned, is an excellence in a hunter. a deep chest admits of expansion, when the horse requires more room to breathe than usual. Muscular exertion facilitates the return of the venous blood to the right side of the heart, and in long continued and violent exertion of the chase, the respiration being quickened, the lungs, if small, are unable to arterialize, and get rid of the blood so

to : as it is pumped into them. consequently, if there is not room for the blood, congestion takes place, and the horse becomes what is termed "blown; the lungs being gorged with blood, and possibly the animal destroyed; and it is a well known fact, that the majority of the horses that perish in the field are narrow-chested horses. For a horse to endure long continued and violent exertion, it is necessary that he should have arrived at that age when all his powers are developed, therefore a horse should not be used as a hunter under eight years old; for though he attains his full height, under ordinary circumstances, about his fifth or sixth year, he increases in bulk laterally till eight, at which period he arrives at his greatest strength and security: though our hunter is a man of energy and courage brings on, in the majority of cases, a cough, and he dies, and they end their miserable life before they are even twelve. The hunter is not so good a horse as three parts bred, and under the present system of racing after a fox, never improves so much for better, and it is a *sine qua non*, that a hunter should go clear of all his legs, not break a hair, and be a true snaffle-bridle

10. HACKNEY, OR ROADSTER, exceeds all the other breeds in usefulness, and is so much in demand, that a good and clever hack is worth a good price; moreover, the early and excessive labour to which Nag horses are exposed, subjects them to such premature decay, that it is exceedingly difficult to meet with a worked hack in a perfectly sound state, however young he may be.

The qualities of a good hack are so numerous as to require great judgment to look for them. He should not be under five years old. He must have a

good mouth, and good eyes, not given to start, gentle in his temper, and quiet to ride on all occasions. He should be square set, without being clumsy, and with this form, the more breeding he shews, short of full blood, the better. Height is not so essential as in the hunter; but if required for quick work, he should be well-bred, and a well-bred horse is rarely able to carry weight if he stand under fifteen hands and one inch, though a half-bred will often carry great weight under that height.

He must have lengthy slanting shoulders, and fore legs, as well as good hind ones, and be able to be safe on his legs. Indeed we look with as much anxiety to the fore parts of a hackney, as to the hunter or racer, we do to the hind. The fore legs must be perfect throughout, they should be quite straight, and stand well from under him. The elbow square with his body, the bones beneath the knee short, deep, and flat, and the tendon not too thin, but as large under the knee as above the fetlock, his pasterns short, but oblique or slanting. His action should be easy and safe.

Safety in action depends upon the manner in which the foot is placed on the ground. It should come down flat, heel and toe at once, if the toe digs into the ground before the bearing is complete, he is a stumbler, and he will be found to wear away the shoe at the toe.

For strength, his back should be straight, and short; hollow backed bones, though easy to ride, will not carry weight; and his hinder legs should be well bent under him, if they are not in their proper place, it is impossible to have proper action.

A good Hackney is a hunter in miniature, and should, like him, possess different degrees of blood, according to the work required of him; he who possesses one, should not be tempted to part with him for a trifle.

In horses used for the purposes of light and quick draught, the principal points are that he have power and breeding equal to the nature of the work required—substance well placed; a deep, well-proportioned body, rising in the withers, and slanting shoulder—short back, well ribbed up, and broad loins—sound, flat, short legs, with plenty of bone under the knee, and sound, open, tough feet.—A free and grand action, though deemed an excellence in cabinet and carriage horses, is necessarily accompanied with much wear and tear of feet and legs, and thus is very soon exhausted. That he have good wind, without which the other qualifications will not avail, for a clear-winded coach-horse will always keep his condition and consequently his health. In fact, coach-horses should be nothing more than very large hackneys, varying in height from 15 hands 1 inch to 16 hands 1 inch; if for machinery, a short neck is preferable; but as fashion is every thing, in carriage horses, where a long arched neck is desired, particular attention should be paid to the set on of the head, or otherwise, tight reining up by constricting and twisting the air passages, will produce roaring.

In the horse for slow and heavy draught, where weight and bulk are required, we perceive the greatest difference in formation. While in the hackney and hunter, in the one, that we may ride safely and pleasantly, and in the other, where extensive, powerful, and rapid action is required, an oblique

shoulder is indispensable. But here, where the pace is slow, we desire a heavy forchard, not too elevated, that he may throw his weight into the collar, for all drawing is but throwing the weight of the body beyond its centre.

An upright shoulder and thick neck, for this purpose, is an advantage, because its additional thickness gives them weight before, which the power of their hinder quarters is sufficient to propel, and because the upright position of the collar enables him to throw his weight into, and act on, every part of it.

He should be short in the pasterns, deep bellied, and full in the flank, for all deep bellied horses carry their food longer, and are consequently enabled to stand a longer and harder day's work.

But though most persons having any experience of the subject are aware that horses with deep shoulders and bodies, and capacious chests, are more capable of enduring hard and long-continued labour than those in which the shoulders and chest are shallow, and the legs long; yet comparatively few know how rapidly the powers of draught of any animal decrease with the increased length of the legs, compared with the depth of the body. In temper, he should rather require the whip than shew too much fire.

But the most perfect mechanical forms are not always the most speedy or powerful good conformation merely gives the power to perform extraordinary exertion; the faculty of motion depends not on form, but on the will to exert that power. Thus energy, or willingness to work, exists in proportion to

the excitability of that part of the brain and nervous system which influences the muscles of motion.

Most persons prefer a plain horse who is willing to labour, to a beautifully-formed one who is not. How are we to learn whether this grand qualification is in possession of the animal we wish to purchase? though it can only be scarcely known by trial, a great deal may be inferred by close observation of the habits, countenance, and behaviour of the animal.

The energetic horse has generally a large eye, is attentive to what is going on before him; the muzzle, and nostrils, small ears, thin skin, and clean limbs; he rarely carries much flesh on his body; it has been recently observed that the energetic horse is more inclined to manes and tails.

The sluggish has usually a small sunken eye, in large heavy head the ears are large or sloping, and often more, the nostrils are almost always small, muzzle fleshy, ribs flat, belly pendant, and the tail drooping.

A small horse is capable of greater exertion than a large one, the vital principle seems to act with increased activity in small animals, in one, it is diffused, and in the other concentrated again, like us, some have better constitutions than others, in one, the texture of the organs may be compact, and in another weak and relaxed. Horses with thick skins are more predisposed to attacks of grease and canker. In proportion as the legs are hairy, the skin is thick and spongy, feeble in vital energy, and incapable of bearing changes of temperature.

The coat of a black horse is coarser and thicker than that of a horse of the same breed of any other

color—it is rather uncommon to see a black thorough bred, whereas that colour is predominant among our large and heavy cart horses.

We will now proceed in detail to examine those points, which should be attended to in the exterior conformation of the horse, and shall chose the Hackney, or horse of all work, as the standard!

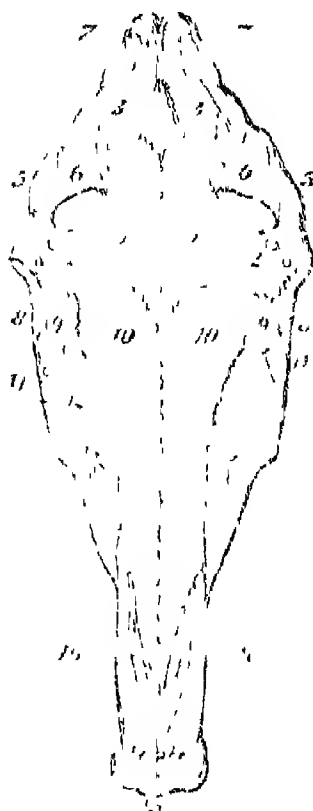
EXTERIOR CONFORMATION OF THE HORSE

Who has not experienced pleasure while contemplating the beautiful proportions and graceful symmetry of a finely-formed horse? Among his admirers there are few who have not formed in their fancy, an ideal model of beauty, and constructed theories by which a knowledge of his speed, and power, might be obtained from the relative developement and proportions of his various parts.

Nature, however, will not submit to prescribed laws, and when even the ablest men assume premises, and calculate results, the first causes of which are ever-varying, they plunge beyond their depths; sound judging practical men, on the contrary, take for their guides observation and experience, not the ‘rules of the schools.’ Man has for his services obtained, by blending the various breeds, an infinite variety of each class, suitable to the numberless modifications of work, any theory, therefore, however ingeniously supported, is calculated to mislead, rather than direct the judgment aright.

But though no one rule can be offered to meet all emergencies, it has been found by experience, that

SKELETON OF THE HEAD OF THE HORSE



- 1, 1, Forehead bones
- 2, 2, Apertures through which the nerves and blood-vessels of the forehead pass
- 3, 3, The bones of the skull,
- 4, 4, The bones of the temple
- 5, 5, The yoke-shaped arch of the forehead
- 6, 6, Cavity, or hollow above the eye
- 7, 7, Bone of the back part of the head
- 8, 8, Orbits of the eye
- 9, 9, Parts from which tears pass from the eyes
- 10, 10, Bones which form the nose
- 11, 11, Check bones
- 12, 12, Upper jaw-bones, in which are the grinders
- 13, 13, Parts whence pass the blood-vessels and nerves of the face
- 14, 14, Termination of the upper jaw-bones, containing the cutting teeth
- 15, Upper, or cutting teeth
- 16, 16, Nasal opening, and bones of the palate

there is a peculiar form, position, and developement of each, that is best adapted to each one of the purposes we put him to. By a correct knowledge of the different structures; by comparing the several parts of one horse with the several parts of another, we are enabled to distinguish the good from the bad.

From his external conformation, the practised eye will form a judgment of his power and capabilities; from his carriage, manner, eye, ear, skin, and action, we infer his temper and energy, and judge of his safety in progression.

THE HEAD is a very important point as indicative of character, and in few animals is an improvement in breed so evident as in this. On viewing the head of the cart and blood-horse, we cannot help being struck with the difference of appearance.

In the unimproved breeds there is a dull uniformity of form, a large head and narrow brow, with small eyes and thick clumsy lid, indicative of a small brain, and its usual, though not invariable accompaniment, a want of energy.

In the well-bred horse, it is small and angular, (in the saddle horse it can hardly be too small), with an animated intelligence of countenance. The space between the eyes flat and broad (and it is the breadth of the frontal bones which gives to the blood-horse that beautiful expression of intelligence and fire), the face gradually tapering from forehead to muzzle. The muzzle thin, delicately formed, and tapering to the lips, which should be firm and well supported; when they hang loose and pendulous, it bespeaks age, sluggishness, or debility.

THE NOSTRIL should be thin, wide, and cartilagi-

nous, a wide open nostril (showing, within, the rosy membrane) is not only requisite to form beauty in the lower part of the head, but is also conducive to free respiration and good wind. The nostril is always large in swift and active horses, and forms not a bad criterion of the size of the lungs; a slow horse may possibly have a large nostril, but a swift one never had a small one.

THE EYES. The globe should be large, full, and prominent, and expressive of vigour, with a thin surface of eyelid. If the eye be apparently small (and the difference in the size of the eye is governed by the size of the opening,) or sunk in its orbit, or surrounded with much adhesive substance, it is found to be prone to inflammation.

In some horses, the transparent *cornea* is small, and the eye shews much of the white. This has nothing to do with temper, but the large appearance of white occasioned by the retroverted direction of the eye, when accompanied by depression of the ears, may be received as an indication of a vicious disposition.

THE EARS should be placed wide apart, spirited, small, and pointed towards each other at the end. They are sure criteria of the spirit and temper of the animal: he is seldom either vicious or playful, but the ears are laid flat back, but when he continues them in that position, he is meditating mischief. The quick change of position, and the expression of the eye at the time, will enable the observer to distinguish between play and vice.

If when at exercise, or on a journey, he carries his ears lively, throwing one backward and the other

forward, and is attentive to every thing going on around him, it is a sure sign of spirit and strength.

THE NECK, in the saddle horse, should be long and thin, arising by a beautiful gradation from out of the breast and shoulders, fine at the top and muscular at bottom, (the muscles distinctly chiselled as it were, but nowhere overloaded with flesh,) growing smaller and thinner as it approaches the head, with windpipe visibly projecting. It should form an elegant but moderate curve, from the poll to the withers; its under surface, but slightly curved, should enter the chest rather above the point of the shoulder.

The neck of the horse is not merely formed as a cover and protection for the windpipe; it has other and important purposes to perform.

Upon the length of the neck depend the length and power of the *levator humerus*, or raiser of the arm, a muscle of immense power and use in lifting and bringing forward the legs, and preventing stumbling. This muscle is in powerful action when a horse is running full speed with his head projected; yet with its use and function, the inventor of the bearing-rein must have been totally unacquainted, as when a horse is tight reined up, it is rendered nearly useless in preventing the animal recovering himself when falling. The unyielding restriction of the bearing-rein also has a tendency to produce roaring.

A long neck, for a fashionable carriage horse, is indispensable. A short one will not bear reining up so as to give that arched appearance so much sought for, and he certainly looks better when his head pro-

jects considerably above the collar. In horses for light or heavy draught, the neck should be thicker than in the saddle horse.

THE WITHERS commence at the termination of the mane, and form that elevated ridge before the pommel of the saddle: they are formed by the long spinous processes of the last cervical and first dorsal vertebrae, and are the levers by which the fore parts of the horse are elevated, in the trot; and in proportion to the length of the arm of the lever, is the ease with which the weight is raised. High withers, however necessary to safety and ease, are not essential to the race or draught horse: low withers usually appear thick, and it is difficult to keep the saddle in its proper place. Dealers, therefore, usually shew a horse with his head up hill, to make him appear to stand well up before.

THE SHOULDERS should be deep, and extend obliquely downward and forward, from a little below the withers to the points. On the good or bad construction of the shoulder, action materially depends, and good action is almost equivalent to strength.

A long and oblique shoulder is an indication of elasticity and speed, for the freedom and rapidity of action of the fore limbs depend on the relative angle of the bones in regard to each other. The abruptness or prominence of the shoulder is a consequence of the upright position of the *scapula*; and when the shoulders are low and upright, the weight of the animal is thrown directly on his fore legs, and the shock is conveyed, as it were, through a solid column, to the annoyance of his rider, and the injury of his legs and feet by the concussion. If the

humerus is long, his legs stand under him, and he has not only difficulty in putting them forward, with weight on his back, but is liable to stumble; and when he does trip, the load he carries, being more forward than the points of support, prevents him from recovering himself. Such horses usually prove uneasy goers.

But though an upright shoulder is a sure mark of an unpleasant and unsafe saddle horse, and commonly a slow one, it is far from a disadvantageous formation in the heavy draught horse. Indeed, in the latter case, it is an advantage; for while it permits him to throw his whole weight into the collar, and affords an easy bed for that part of his harness, it allows sufficient action for the work he has to do; in horses for heavy draught, extensive action necessarily causes the collar to set uneasily.

THE BREAST, or COUNTER, in the saddle horse, should not be too wide at the points; if too broad, the horse is usually awkward in his trot; a fault in the saddle horse, but an excellence in a draught horse, whose breast cannot be too wide, or too heavy.

POSITION OF THE FORE LEGS, when viewed in front they should be straight, widest apart at the breast, and gradually yet slightly approaching each other, as they descend towards the fetlock. When the approximation is too great, the animal is liable to cut, by striking the fetlock with the opposite foot, though this more frequently occurs from weakness of the pasterns, or mal-position of the elbow joint. The degree of width must depend on the pur-
for which the horse is required. The legs of a draught horse can scarcely be too far apart; but if too wide in the saddle horse, it is usually accompanied by a lumbering action.

Viewed from the horse's side, the leg should descend in a straight line from the elbow to the fetlock, with the toe of the foot placed immediately under the point of the shoulder. If the foot stands beyond that line, the action will be confined; though such horses are generally safe; if much behind, the centre of gravity is removed beyond the pillars of support, and the animal is much more liable to fall.

THE FORE ARM should be large, broad, muscular, long and tapering towards the knee. The strength of the fore arm may be estimated by its breadth, and the extent of its action by its length. In proportion as the fore arm is long, will the shank be short; a formation favourable to strength, speed, and extensive action, though where a prancing action is desired, and utility is sacrificed to appearance, the arm must be shorter, and the shank longer.

THE KNEES should be large and flat, broad from front to back; when proceeding from the straight line of the leg, the horse is called "call-kneed."

THE PASTERNS are situated between the fetlock joint and the top of the hoof. Experience alone among horses will point out the most advantageous position of the pasterns: long pasterns confer elasticity, and are commonly pleasant, easy, and speedy in the gallop; but they are weak, liable to strain, and injury of the back sinews; upright pasterns are not only unsafe but unpleasant to the rider, and injurious to the horse. There should be length and obliquity enough to give pleasant action and no more; but unless he is very much illused, a pastern a little too long for a saddle horse is a less evil than one a little too short. All that need be said on the subject is, that weight requires a short, and speed a long, pastern.

THE FEET should be placed firm and flat on the ground, parallel with each other, and pointing straight to the front. The foot should be nearly round, smooth, and of a dark colour, without any signs of brittleness; wide at the heels; the sole concave, with a large and sound frog, and the bars or inflections of the wall distinct. The wall of a perfect foot is cylindrical, the posterior part having the same slope as the front.

The inclination in a sound foot is about forty-five degrees, highest at the toe, but regularly declining in height towards the quarters: when it is much more oblique, it indicates weakness; the horn of the wall will then be found so thin as hardly to bear the nails, the heels low, the sole flat, and the bars small in size; such feet cannot stand work, are subject to corns, strains of the fetlock, and are liable to be pricked in shoeing, and if attacked with founder are irreparably injured. Whoever buys a horse with such feet, will sooner or later have cause to lament his bargain. If it is more upright, the sole will be thick and concave; and if the wall is high and deep at the heels, (if not the result of bad shoeing, which is easily ascertained by the action,) such feet are liable to contraction, grogginess, sanderack, &c.

THE CHEST. Upon the form of the chest depends the value of the animal; without plenty of room for those important organs, the lungs, there can be little speed, and less endurance. And the external indication of the size of the lungs, is the form and size of the chest.

The capacity of the chest depends more on the form than the circumference, for where the girth is

equal in two animals, one may have much larger lungs than the other.

Narrow-chested horses can stand no fatigue, have seldom good digestion, are difficult to keep in condition, and are puffed by the slightest thing—a draught of water or a brushing gallop. They are usually light in the carcass and long in the leg, and in the language of the stable “have too much dry light under them.”

Round-chested horses are generally slow, strong, and easily kept in condition; but they are apt to accumulate flesh, and are easily blown, and, from the circular form of their chests, are unable to enlarge its capacity when increased circulation requires it. But for speed and endurance, the most desirable form of the chest is that it be deep, and barrel out behind the elbow; it cannot be too deep in the girth in any horse. Such a form is of the utmost advantage in a horse of speed, not only by giving capacity to the chest, but by giving more room for the attachment of those muscles, on and between the ribs, which are called into action when the breathing is accelerated by over exertion, by effecting increased expansion of the chest, and relieving the distress of the animal.

THE BARREL, or sides, should be deep and round, and not flat. When a horse is flatsided, the belly is pendant and such horses usually have bad action, and are only fit for slow work.

THE BACK should be straight and sufficiently long to leave room for the saddle. The advantage or disadvantage of a long or short back depends entirely on the purposes for which the horse is required. For general purposes, a horse with a short carcass is

preferred. They are proverbially hardy, can carry great weight, and endure much fatigue. But on the other hand, their action is confined, they are seldom in fact, and sometimes uneasy in their paces and apt to overreach. A long back is favorable to ease and capacity of progression, but is unfavorable to strength or bearing heavy weight. Saddle backed horses, that is, when the back is sunk, are also weak, but very easy in their paces.

THE LOINS cannot be too broad or too muscular in any description of horse, for breadth here gives strength without interfering with speed. The loins should also be straight. At the junction of the back and loins, in some horses, there is an indentation, which shows imperfection in the construction of the spine, it is a serious defect, and is termed 'badly loined.' When the curve is upwards, though it confers strength, it is an unsightly defect, the elasticity of the spine is diminished, and the horse's paces are unpleasant, it is termed roach-backed, and from their hind legs being brought too much under them, they are very apt to over-reach.

THE QUARTERS are considered by judges to be most important joints in the frame on their development depend his power and speed. Their muscularity denotes power, and their depth, breadth, and width indicate the advantageous direction of that power. When there is want of breadth from the haunch bones backward, shown by the low setting on of the tail, as exemplified in the cart-horse, there is usually confined and slow action, unless compensated for by depth and width.

Width of haunch and well spread thighs are char-

racteristic of the well bred-horse, and give security against cutting as it progresses.

THE HOCKS are most important and complex joints, upon whose proper formation are essentially connected the excellence and value of the animal. They should be large lean bony joints, broad and flat as you stand by the side, for their breadth is dependant upon the length of an important lever, the (*os calcis*) which corresponds with the heel in man, into whose points are inserted the most powerful of the muscles used in bending the leg. In draught horses, it is comparatively short and upright, and consequently their stride is limited; but in speedy horses it is long, which has the effect of bending the leg to the proper position under the body.

POSITION OF THE HIND LEGS. Viewed from behind, the thigh should be well spread, descending to the ground perpendicular without any inclination inward or outward, either of the hock, or pasternus, the weight and strain will be then equally borne by the various parts.

The proper position of the hind foot of a hackney is, when the horse is standing with them both equal or opposite each other, about three to four inches behind a line falling from the stifle joint. If the legs are behind this point, he said to "have his legs behind him." On the flexure and position of the hind leg depends his speed; the nearer he can place his hind legs under his body to the centre of gravity in the gallop, the greater will be his power and celerity, and that power depends on the formation of his hock, for in proportion to the length and power of his hock will be his spring.

COLOURS AND MARKINGS By many persons, the good or bad qualities of horses are supposed to be connected with particular colors, that their temperaments and aptitude for exertion are traceable to the colour of the skin. That some colours are not so prevalent among well-bred horses, and that other colours are more common among horses of no breeding at all, is apparent to every observer; but I am disposed to consider they have been so bred, because their price is very often influenced by what happens to be a fashionable colour, and that predisposition to disease or aptitude for work depends more on breeding and form than on colour.

Again, it is often asserted, and with positiveness, that white legs are predisposed to cracks and grease. Even though we very often see white legs cracked, I do not perceive the necessary connexion between the disease and the colour, and it is thus easily explained—not that the leg is weaker, but that its colour exposes it to be weakened. White legs being easily stained, from the desire to keep them clean, are more frequently washed; and by careless grooms the legs are often left to dry of themselves. The evaporation from a wet surface produces cold, and the repetition of the practice ultimately repels the secretion of the greasy matter necessary to keep a part of so much motion, soft and pliable, and inflammation and cracks are the result; the same may be observed of white hoofs, the frequent wettings rendering the horn hard and brittle.

The Greys, of which there are several varieties, the silver, iron, dappled, and flea-bitten, and by many are valued on account of their beauty; but during the moulting season they are objectionable, as saddle horses, from soiling their riders' clothes.

The dappled grey is a great favourite, the darker the better, as he retains his colour the longest of the greys; and from being favourites, they have been more improved than the other varieties, by the addition of better blood.

The piebald is rarely liked as hackneys, though in phaeton or light carriage, if well matched, they have a very pretty effect. Of the chestnut there are three varieties, the sorrel, light, and dark; the light have frequently large intermixtures of white; and in the coarse breeds the whole face is white, and in all, the legs are apt to be white; the lighter shades are supposed to be characteristic of debility of constitution. The dark chestnuts are commonly considered as of sound constitution and great endurance, but of hot and fiery tempers, and their feet more prone to contraction, than any other colour.

Of the bays there are various shades, light and dark, termed bright-bays, yellow-bays, and brown-bays. The dappled-bay is an esteemed colour, and so is the bright-bay, if accompanied by a black-mane and tail, or a dorsal listing. The dark-bays are more esteemed, if in addition to black-manes and tails their joints and legs are black. The bays and browns have of late years been bred with much care, and display a considerable deal of blood.

The browns not being so fashionable a colour, have not had so much attention paid to them, and are comparatively coarse: but those that are well bred, are usually good. There is not usually so much show as in the bays, but they are stronger and more useful horses. In the dark-brown, when the muzzle is of a tan colour, it is usually considered a mark of goodness.

The black horse presents every variety of character, from the most furious to the most sluggish, and are said to be more subject to vice, disease, and blindness than any other colour. A star in a black-horse is considered a beauty, and black-horses with brown muzzles and flanks, are usually considered good.

EXAMINATION OF HORSES FOR PURCHASE.

Having found a horse whose exterior conformation, size, and apparent strength, seem suitable to your purpose, we will now proceed to give such information as will enable the buyer, by careful examination, to recognize those defects, blemishes, symptoms, and appearances which latent disease and injuries assume, and thus prepare him to detect the multitude of impositions which have been resorted to by the lower class of dealers to disguise indications of unsoundness.

Unless proper precaution is used in the examination of horses for purchase, the law will not protect a man from the consequences of his own neglect, and it has been held that a warranty against apparent defects is bad in law, the purchaser being expected not only to possess ordinary skill, but to exhibit ordinary caution.

A defective horse is dear at any price, while the value of a good one, is, as compared with a bad one, as infinity to nothing. In choosing a horse, let the buyer be ever so good a judge, and his inspection be ever so minute, he must take some things on trust. A perfect knowledge can only be obtained on trial, which should always be taken, if possible, but which

is not always to be had. For instance, some horses, when turned of six or seven years old, are subject to a dry chronic cough, which comes on at uncertain times, perhaps twice or thrice a day, sometimes after feeding, or drinking; or changes of temperature may induce it; as when he comes into, or goes out of stable. Occasionally a dose of physic, and in some cases a little attention to his diet, will prevent re-occurrence of his cough for two or three days, or even weeks, when it will re-appear.

With a respectable dealer, after using your eyes and discretion, you had better depend on the warranty, and his character, than by any unnecessary display of suspicion, offensively question his honesty. Nevertheless as the trade is taken up by needy gentlemen of good standing in society and broken down black-legs of respectable connexions, who are ever ready to give a warranty not worth a dump, or satisfaction, if you are dissatisfied therewith, if you have reasons to suspect the horse, or his master, the directions here laid down will be found useful. Always bear in mind that the observation of one symptom should induce the examiner to follow up the inquiry into those other symptoms which are characteristic of the suspected disease, defect, or unsoundness.

The best time to view a horse is early in the morning, in the stables, as then if there is any stiffness in the joints, or tendency to swelled legs, it will be most apparent.

The horse should always be examined from a state of rest. If there are any symptoms of his having been previously exercised, such as sweat about his withers, or his legs have been recently

washed, it is advisable he should be left in his stall till cool: for there is more than one species of lameness, which becomes less apparent after exercise, and where there is a tendency to swelled legs, a smart trot and grooming will line his legs, and render them clean.

This precautionary measure is more especially to be taken when you suspect your man, for in horse-buying we have to deal with gentry who are acquainted with the science of imposition in all its ramifications. A stable examination is the best for observing indications of wind-sucking, crib-biting, chronic cough, the state of the respiration, and for discovering vice.

For this purpose, always have a horse shewn quietly, when there is much noise and bustle, there is generally something wrong; and when the animal is agitated, slight lameness will escape the eye.

The first thing to be observed is, that when standing evenly, the weight is thrown equally on both feet. If there be any complaint in the fore feet, one will probably be "pointed," that is, extended before the other, or he will frequently alter the position of them, taking one up, and setting the other down; or the hind legs will be brought under the body to relieve the fore feet of some portion of the weight. Any of these symptoms will direct your attention to the feet when you see him out.

To judge of his respiration, it is necessary to be acquainted with the indications of health. Observe if the flank alternately rises and falls with regularity. In health, the respiration of the horse is from four to eight per minute, average six in the day time; dur-

ing sleep it is seldom more than four. If quicker than ordinary, it betokens present fever, or defective lungs.

Should it arise from present fever, other symptoms will be developed, such as increased pulse, heat of mouth, and dulness, while the delicate pink appearance which the membrane covering the partition of the nostrils assumes in health, will be increased in colour.

But if none of these symptoms of ill health are present, and yet the horse heaves at the flank more than ordinary, if the weather be moderate, and the stable not oppressively hot, it is probable such a horse is thick winded.

When inspiration appears to be performed readily and quickly as in health by a single action, but expiration with difficulty by an irregular and prolonged movement, or double action, the respiratory muscles appearing as if interrupted in the act of expelling the air, and then the flank drops suddenly, it is a symptom of broken wind. His cough should then be tried. The cough of a broken-winded horse is a peculiar low hollow grunt, difficult to describe, but when once heard easily recognized.

The cough can generally be elicited by pinching the *larynx* or *trachea*, though, occasionally, this fails, for some sound, as well as broken-winded, horses, cannot be made to cough at all. In these cases, when there is any irregularity in the movement of the flank, which would lead to the suspicion of broken wind, and there is unusual hardness of the windpipe, which does not give way on pinching, it may be taken as a symptom of disorganization, in addition to the broken wind.

If the hair is rubbed off in some places, especially about the head, flanks, and tail, or he is observed rubbing himself against the sides of the stall, there is danger of his being mangy; and in this case his coat will be found rough and staring.

The absence of the vices of kicking and biting may be inferred from the manner of the groom when entering the stall, and by the quiet method with which he uncloths and dusts him over, and combs out his mane and tail. If he be a biter, his head will probably be tied short to the neck, or the groom will seize hold of him short by the halter or bridle, sometimes giving him a shake, or looking sternly at him. Desire to see his hind and fore feet, and by the manner in which he permits the groom to lift them, a guess may be made as to his quietness to groom his heels, or shoe.

While the horse is in the act of being led out of the stable to the light, closely observe his manner and action: if the ears move in quick changes of direction, as if alarmed at every noise, and he hangs back on the halter, raising his feet higher than ordinary, and putting them down as if fearful and uncertain of his step, it leads us to suspect his eyes, though sometimes these symptoms will be observed when the eyes are perfect, if the stable has been a dark one.

When the horse is shewn out, notice if he stand firm on his feet, with his weight thrown boldly on his back smews and pasterns. If there is any appearance of shaking or tottering of the fore limbs indicative of grogginess, it will be endeavoured to be disguised by the groom continually pulling at the bit, to make him shift his legs and stand advan-

stageously. A lame horse is never permitted to stand still a moment, and the groom, though pretending to soothe, is in reality agitating him, while the shrewd and crafty seller will most probably endeavour to withdraw your scrutiny from the defective point, by calling your attention to his spirit or playfulness. If any of these manœuvres are apparent, be upon your guard. The groggy horse inclines a little forward at the knee, or it is readily bent by the least touch behind, he rests his weight on his toes, and when standing undisturbed, brings his hind legs under him. Some young horses, before they have been backed, have this deformity, from malformation of the knee; but if, in addition to this bending forward, there is any tremulous motion of the limbs, it is a decided proof of the existence of that most destructive affection - *Navicular disease*. Whatever his age he should be rejected—NEVER BUY A TOTTERING HORSE.

Another deception is effected by standing a horse up hill; the shoulder is made to appear more sloping; and dealers, to give that appearance, desire the near leg to stand before the other.

Though the dealer is perfectly justified in these little manœuvres to shew off his goods to the best advantage, more especially in so fancy an article as a horse; which is no more than is done and allowed by every tradesman; the prudent purchaser will not please his eye at the expence of his judgement, but see the horse on level ground and with his feet placed even.

If one foot is more upright than the other, that foot is diseased; the same weight is not thrown on it; and the horse never shams: if it is of different tem-

perature, active disease is going on; if an old standing complaint, the feet will be found of different size, and possibly the muscles of the arm and shoulders diminished in size.

Taking our position in front of the horse, we examine his fore legs; that they are in proper position; that there is no weakness in the pasterns, or enlargement of the fetlocks; and that the feet are of the same size, and stand square to the front.

● We judge of the general state of the animal's health by his breathing condition, the brightness of his eye, the colour of the membrane lining the lid, and that of the membrane lining the nostril, which in health is of a pale pink. If it is a florid red, there is excitement of the system, and if it is pale, approaching to white, it is a sign of debility.

Each nostril should be alternately closed by the hand, to ascertain that the air passages are not obstructed by polypus, or enlargement of the turbinated bones.

If there is any increased discharge from the nostrils, you will probably be told it proceeds from slight cold; in that case, an accelerated pulse and affection of the eyes are usually concomitants; nevertheless, as a precautionary measure, the branches of the under jaw should be felt for enlargement of the glands; if, although enlarged, they are moveable and tender, it is probably nothing more than a catarrhal affection. And here it may be necessary to observe, that in deciding upon the disease with which the horse is afflicted, it is requisite to bear in mind the age of the animal. In examining the head of a young horse, should the space between the branches be hot, tumid, and tender, the membrane of the

nose intensely red, with profuse discharge from both nostrils, and cough and fever present itself, we may more than suspect strangles. Where, however, there is neither cough or fever, but one nostril, and that the left, affected, the discharge lighter in colour, and almost transparent, yet clammy and sticky, and the gland on that side adherent to the jaw bone, glanders is indicated. In this case, should the lining membrane of the nostril be found pale, or of a leaden colour, with small circular ulcers, having abrupt and prominent edges, there can be no second opinion on the subject.

But we caution the inexperienced examiner not to mistake the orifice of the nasal duct, which is situated in the inner side, just within the nostril on the continuation of the common skin of the muzzle, and which conveys the tears from the eye into the nose, for an ulcer; and warn him, in all suspicious cases, to be careful he has no chaps or sore places, on his head or face, as this dreadful disease is unquestionably communicable to the human being. As few persons will buy a horse with any symptoms of actual disease, however slight, if they can help it, the enquiry is better left to a professional man, in case any of these symptoms make their appearance after purchase.

His crest should feel hard and full, and firmly and closely attached to his neck; if it be lax, he is out of condition. His skin should feel kind, and look glossy, and the muscles of the body feel hard and spungy to the touch. In the old horse, the head grows lean and fine, and the features more striking and blood like, the neck fine, withers short, and the back sinks; the lips exhibit a lean and shrivelled appearance, and the lower lip hangs considerably below

AGE OF THE HORSE, AS INDICATED BY THE TEETH.



At one Year old.



At Two Years old.



At Three Years old



At Four Years old.



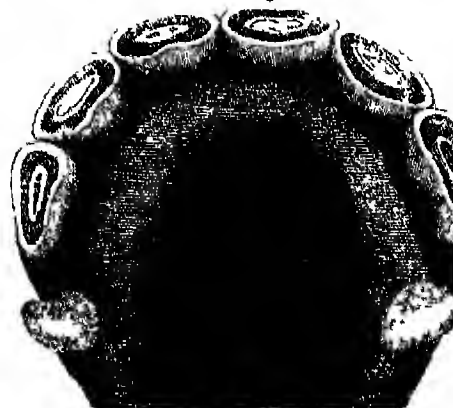
At Five Years old.



At Six Years old.



At Seven Years old.



At Eight Years old.

the upper. In youth they are round and plump, and meet together, and the ridges of the roof of the mouth will be found prominent. In age, the middle of the nose will sometimes be found indented by the long-continued pressure of the nose-band of the head stall. In lifting his lip, if the incision teeth shut close, even, and are perpendicular, he is young. As he grows older, they project forward in a horizontal direction, and the upper and under edges do not meet with evenness, the upper projecting over the under teeth. The longer his teeth are, the gums being dry and shrunk from them, the more advanced he is in age.

This appearance of his teeth cannot be altered by the arts of the dealer. In youth, the teeth are flattened at front and rear, and long from side to side; at eight years old they are oval; as age advances, they become round, and in extreme old age triangular, yellow, and incrustated, and the tusks become blunt.

If there are any marks of extraordinary wear in the central teeth, there is reason to suspect crib-biting, and in old cribbers the outer edge of the front teeth are worn away, and little pieces are sometimes broken off by the attrition against the manger; if such is the case, look to the neck for marks of the crib-biting strap."

Dishonest dealers attempt to disguise age by reproducing the mark in the corner teeth by means of a hot iron or caustic—the fraud is easily detected by a horseman, as it is usually over done, and the marks do not correspond with the length, shape, and duration of the teeth, and the "bishops" horse is usually loth to have his mouth meddled with.

Having attentively looked over the horse as he stands, and discovered nothing objectionable to the eye, it is prudent to see him through his paces before proceeding to ascertain, by careful examination, what defects, blemishes, &c. which may have a tendency to produce unsoundness, he is afflicted with; as the action of a horse, when closely observed, guides us to his defective points.

He should be first walked, and then trotted, without any whip near him, slowly down the ride, allowing the animal to have the whole of the halter to himself; his head will then be entirely unconstrained, and any irregularities in his action are easily detected.

The action should be scrutinized most attentively immediately he steps off, as defects are then most visible, for, not unfrequently, lameness disappears after few moments' exercise.

Should one of the fore feet be much affected, it will be evident, by the up and down motion of the head, and the different degree of force with which he puts his feet to the ground. Horses that are lame before, drop their heads when stepping on the sound leg, and raise it when the weight is thrown on the lame leg, but when they are lame behind, the action (though not so perceptible) is reversed; they throw up their head a little when the sound leg comes to the ground, and depress it when the lame leg propels the body, and the motion of the lame leg is slow, while the sound one is jerked quickly forward to sustain the weight.

When both fore feet are equally tender (which is not uncommon in groggy horses) it is more difficult to judge of his action—it is not uneven, and the

hump is not perceptible, but he steps short and feebly, with a general appearance of contraction. Dishonest dealers at fairs and auctions, resort to a scheme by which groggy lameness in one leg is disguised by making the action even. It is known in various parts, by the slang term of *diamonding*, *beaming*, *balabeming*, &c.

It is performed as follows, the shoe of the sound foot, and padding at the sole until it yields to the pressure of the thumb. The shoe is then replaced, and a wedge of wood, a pebble, or bean, is driven in between the sole and shoe, until sufficient pain is produced to make the horse equally lame on both legs. Although the lameness is less evident, yet a person accustomed to the action of horses, will easily detect it, and if the animal is allowed to stand undisturbed, it will be evident something is wrong by his repeatedly shifting his legs.

Another trick of these ruffians, resorted to to conceal lameness, or to give an appearance of energy to the sluggard or worn-out horse, is the torture of the lash, termed *firing*. The poor animal, previously to being shewn, is so barbarously flagellated, that under the influence of terror of the further application of the whip, his attention is withdrawn from the disease, he feels not the lesser pain, but trots off heedless of his lameness, or at least showing it much less. Whenever there is much punishment, or the threat of it, while shewing a horse, **BE SURE THERE IS SOMETHING TO CONCEAL.**

In his trot, if the action is good, the foot is boldly delivered with what may be almost termed an allegro movement. Its course is straight forward, and downward, not dishing to either side; the motion should

be from the elbow as well as the knee; the hind legs gathered well under the body, following with regularity and precision; the toes fairly raised from the ground, and spread pretty accurately in the impress of the fore feet; if they pass beyond, they are likely to over-reach. In the trot, he should go lightly with the fore-feet; but strike the ground energetically with the hind, taking a long darting stride, and shooting, as it were, the body forward.

In trotting, the horse that throws his legs confusedly about, should be rejected, for though most young and uneducated horses have an ungraceful and disorderly action, the sluggard is never precise and uniform in his trot.

In criticising action, attention must be paid to breed, but it should be sufficiently high in a hack, to clear all ordinary irregularities on the ground; if it is very high, look out for trace of having worn a knee cap. Be careful to observe that he does not occasionally drop; a casual giving way on either leg, in the trot, is a sufficient hint to reject the animal, he will certainly fail when put to work.

Though the best horse may stumble, if, after tripping, he springs out as if he feared the whip or spur, you may justly suspect him to be an old offender, which will induce you to look to his knees and head. Observe that he goes clear in all his paces, and that one leg does not interfere with the other; horses that go very near are more likely to cut when tired.

The carriage of the head and tail are points to which the eye of a good judge will be directed. If the tail goes to and fro when in action, like the pendulum of a clock, it is a good sign of blood and steadiness.

He should now be mounted, and the trial be repeated on the stones or hard road, or, what is preferable, on a rough and stoney declivity, for there are many cases of slight lameness which do not shew on soft ground, at a walking pace, or when the horse is unburdened. If he step away boldly, the toe in a direct line with the body, the knee fairly bent, and his foot up and planted firmly down again on the ground, fearlessly and flat, without any dropping of his head, you may conclude him sound in action. His hind legs, well lifted up and tacked well under him, should follow his fore legs with regularity; and if in running him up hill he goes without dragging his toe, you may infer the same behind. In the gallop, if he takes up his legs quick and dashes in his haunches, not bringing his hind legs after him, his action is good. During this display of action, the examinant will have an opportunity of judging of the perfection of his wind; if he does not ride the animal himself, he should stand close to the horse at the moment he comes in to the gallop.

The thick-winded horse breathes with difficulty, and is soon distressed. The flanks heave much and rapidly; there is some little noise; but the laborious heaving of the flank is the principal indication. A horse unused to exercise, or if fat, or exercised on a full stomach, will show symptoms of thick wind; and it has been observed of great feeders who never breathe freely until they have gone a mile or two, or begin to sweat, that they are able to do more work than others that do not labour under the same difficulty.

THE WHEEZER, in addition to being thick winded, utters a sound like an asthmatic person when a little hurried. Wheezing may frequently be heard while at rest in the stable.

THE PIPER, or whistler, utters a shriller sound than the wheezer, but it is only heard after exercise, and that of some continuance; a short gallop up hill is sometimes necessary to develope it, but the whistler is soon distressed. "Never buy a whistler, he cannot improve on your hand, and he is almost sure to get to worse," said Sir Henry Peyton to Nimrod; an opinion to which I cordially subscribe; and the same advice may be given of all these affections of the air passages.

Roaring is not heard at rest. In the majority it is only developed by exertion, which quickens the breathing, and the noise is increased in proportion as the pace is accelerated; though in a few it is audible as soon as put into the trot. Knowing dealers, who wish to prevent the noise from reaching the ears of an inexperienced purchaser, when shewing a "Bull" of good action, start the horse a considerable distance before putting him to the gallop, and in returning, slacken the pace, so that the breathing becomes tranquil before the horse reaches the examiner; this is called "coming the long trot." Many of these lesions are consequences of inflamed lungs, or diseased alterations of the air passages, and most of them are modifications of the same disease. Sometimes, they exist in so slight a degree, as to be discoverable only by quick and long-continued exertion: but, when they are suspected, they should be tried by a brushing gallop, though this is not always allowed.

The only other simple and practicable plan to get at the state of the breathing, is the common way of making the horse cough, which if gross, and accompanied by a short groan, is conclusive, and the characteristic grunt, when alarmed, is not to be misun-

derstood. But the cough is not always marked, and therefore not infallible. If therefore there is any cause for doubt and suspicion, it is better to call in a professional man, more especially as the slighter affections are apt suddenly to terminate in the greater without much warning, in a very short time.

We now proceed to search for blemishes and those indications of unsoundness which are apparent to external examination, bearing in mind, any symptoms or suspicious appearances in his action, that may lead us to suspect particular parts, which should then be subjected to the severest scrutiny.

Any scars about the head, should direct attention to the knees, or they may lead one to suspect there may have been an attack of megrims or staggers.

The neck should be searched to ascertain that both jugular veins are perfect, which is discovered by pressing on the lower part of the neck, with sufficient force to stop the return of blood from the head; if the vein be perfect, it will fill and swell from that point upwards towards the head. The loss of one of them, if recent, predisposes the horse to staggers or apoplexy, and he cannot be turned out to grass or straw yard without risk. The withers should be examined for bruises from the saddle, as he is unserviceable as long as heat or swelling continues.

The slightest tendency to sore back makes a horse unserviceable for many months, and not unfrequently causes him to rear and plunge on mounting.

The shoulders should be examined for tumours. If there are any marks of setons or blisters about the points, it is probable he has been treated for shoulder lameness, and the attention of the examinant will be

directed to the foot; which, ninety-nine times out of a hundred, is the seat of lameness before. If that is found round and strong, with the heels high, we may suspect navicular disease.

The chest and breast should also be searched for marks of rowels, setons, and blisters, for the remains of them render it probable that the horse has been under treatment for inflamed lungs or chest affections, and should, in prudence, direct the purchaser to ascertain by a smart gallop whether the mischief is of a permanent nature, more especially if the horse is narrow-chested.

The knees should be examined with the utmost care, first that they correspond in shape, and secondly, to ascertain whether the skin has been broken by falls; but it does not follow that a mark or scar indicates a stumbler, and an accidental blemish should not induce us at once to condemn a well-formed animal.

A broken knee may happen from variety of causes. The safest horse may fall by an unavoidable accident, such as a false step, from any thing giving way under the foot, as a round stone, from fatigue and over exertion, or from a bad rider. But a broken knee is a suspicious circumstance; it may be taken as an indication of existing or recent unsoundness, and the slightest mark calls for the most careful observation of every part of the horse, of his make and action, and suggests the narrowest scrutiny of the legs and feet; a tight shoe, a nail driven too close, or from bad shoring. The toe being left too long open, causes a horse to trip, tenderness in the feet, contraction, groggy lameness, corns, and thrush; a scar on the head, above the eye, (for a decided fall of

the horse leaves unequivocal signs there) is a suspicious sign; when no trace of local disease can be found to account for them, the enquiry should be followed up into the horse's constitution, for the staggers or megrims may have occasioned the accident.

When a scar on the knee is observed in connection with low withers, a thick and upright shoulder and pasterns, with the legs inclined under the bone, he is unwise who does not take the hint that the faulty formation has not produced its natural consequence. To discover the integrity of the knee, is not so easy as some suppose, as occasionally the hair grows so well over the wound, as to leave it hardly discernable; but on minute inspection, when there has been a scar, an interception of the gloss is apparent as if the hair grew in an oblique direction; should this be observed on bending the joint, the secret will be exposed.

The shank should be examined for splint, strained or enlarged flexors, and the marks of firing or blisters.

In inspecting the leg, the eye alone should not be trusted, particularly in hairy legged horses; but after minutely comparing the appearance of the two limbs, the hand should be deliberately passed down both shanks before and behind; any difference before or behind, points to a deviation from health.

In the sound flat-limb, the tendon is well defined, perfectly distinct, and has a hard tense feel that resembles the touch of a cord tightly strung. If the back sinews feel thick, the flexor tendons and their sheaths swelled and rounded, leaving no distinctive marks as it were between the one and the other, but all swelled into one mass with the bone, great mis-

chief has at some time happened; either some of the ligaments have been ruptured, or there has been inflammation, effusion, and adhesion of the vaginal bursæ, or synovial sheaths of the flexor tendons; or such relaxation has taken place from strain and subsequent inflammation as will always keep him weak. When the injury is recent, it is accompanied with more or less swelling, heat, and lameness. By time and treatment the first are removed but the swelling remains and the thickening of the tendons shews the mischief that has been done. Whenever there is manifest alteration of structure here, and yet the animal is apparently sound in action, the purchaser should bear in mind that the soundness is often the effect of rest; and should the animal be again put to work, he will become lame.—And, bear in mind, in such case, you cannot return him, for no man in his senses would give a special warranty against it.

SPLINTS.—If large, are apparent by the deviation of the outline of the leg; if small, the hand discovers them.

Every excrescence on the cannon bone, in horseman's language, is termed a splint. The true splint is in fact a local conversion into bone of a part of the temporary cartilage, connecting together the large and small metacarpal bones. The inflammation is set up by concussion or strain. Horses are lame from them, while there is inflammation in the cartilage, and the tumour is growing and distending the membrane covering the bone and cartilage. But when the tumour is formed, the inflammation has subsided, and the periosteum has accommodated itself to the enlargement, the horse is no longer lame, nor more likely to become lame from that splint, than

one without; the same causes that produced the first, may produce a second.

The splint, if so large as to interfere with action, rendering the horse liable to strike, is objectionable, or so near the knee or ligaments as to interfere with their freedom of action; otherwise they are of very little consequence beyond the blemish, destroying the line of beauty. The worst splints are those not discernible but by the lameness they produce.

Any marks of firing or blistering should make the purchaser cautious, and endeavour to ascertain the cause of the treatment: after blistering, the hair is sometimes a shade different in the colour, and staves a little, is shorter and bristley, and wants the natural gloss.

The fetlock joint, from being the principal seat of motion below the knee, and from its complicated structure, is particularly subject to injuries. The fetlocks should be subjected to the strictest examination, for enlargements, which are best ascertained by carefully comparing them with each other, as any difference in size is indicative of strained or even ruptured ligaments, and consequently permanent weakness of that important part.

If the injury is recent, there probably will be heat, and pain on pressure; and any signs of blistering or other treatment, though no enlargement or lameness is apparent, should induce the buyer to view the animal with the utmost suspicion.

If there are any sores or callous places about the fetlocks or pasterns, he is a cutter, and possibly the marks of the foot may be visible. If there is no malformation to account for it, it may have been

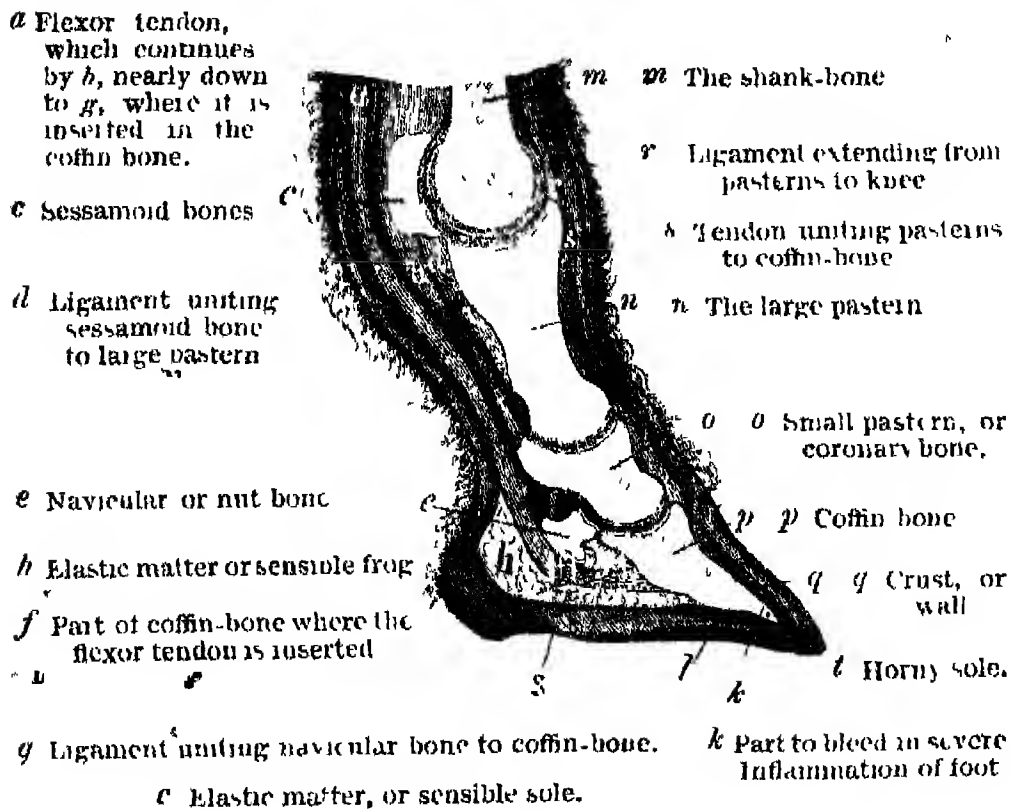
done when fatigued, or it may have arisen from improper shoeing, his feet should then be examined.

If an old offence, he may probably have a peculiar shoe, rather thicker and narrower in the web on the inside than the outside, and nailed *only* on the *outside* of the foot, and round the toe; or the opposite shoe is found filed away or bevilled off, with the hoof projecting a little over the shoe. Where the feet, though well formed, are placed closer than desirable in narrow-chested horses, and therefore apt to cut, particularly when tired, we sometimes find a shoe is adopted thinner on the inside than the outside.

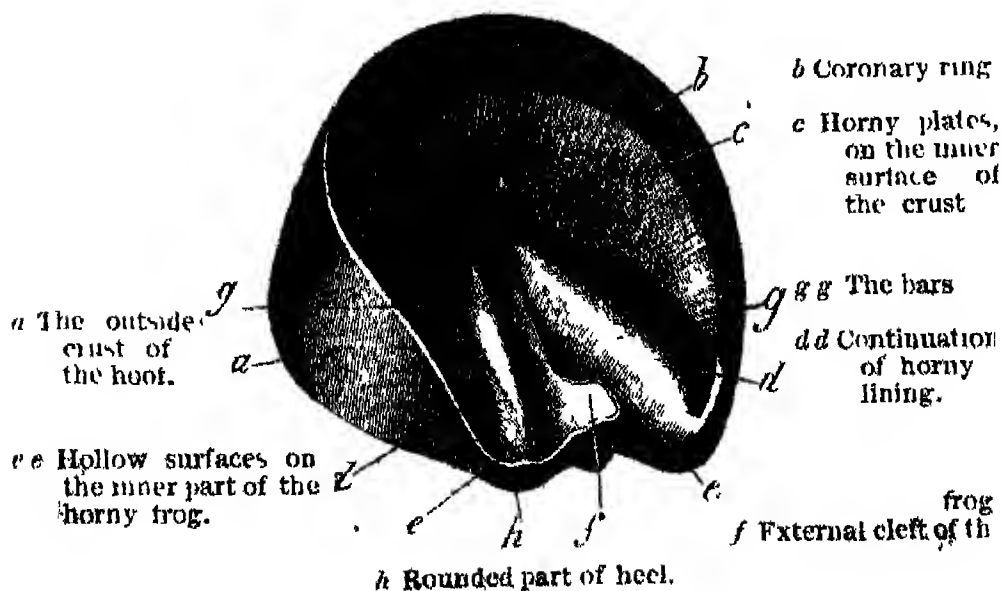
At other times various ingenious devices, calculated rather to increase than remedy the evil, have been resorted to, such as putting on shoes narrower on the inside, and set within the crust and the wall of the quarters reduced in thickness by the rasp. If none of these schemes have been resorted to, to obviate the defect, the horn of the opposite foot will sometimes be found polished by the attrition; for it is not the *shoe* that cuts once in a hundred times, *but the hoof*. In horses that interfere, we generally find the inside quarter lower than the outer, or the toes turned outwards—the fault being in the leg that receives the mischief while sustaining the weight, not in the *foot* that gives the blow. The tired horse throws his legs about, and frequently cuts himself; and it is a fault of most young uneducated horses, especially if they have been backed or inconsiderately worked too early.

If there are any symptoms of knuckling or inclination of the fetlocks forward, serious injury has happened.

PERPENDICULAR SECTION OF FOOT AND PASTERNS.



SECTION OF THE FOOT OF THE HORSE.



The hair above, and below the fetlock joint, should be carefully searched for the scars left by the operation of *neurotomy*, (the division of the nerves that supply the foot with sensation,) pricking the fetlock with a pin, if you have reason to suspect it has been performed, will shew whether sensation has been destroyed. About the fetlocks are frequently found little puffy tumours, absurdly denominated windgalls, from a supposition of the farmer that they contained wind.

Whenever parts move and press on each other, and between tendons, particularly about the extremities, there are placed little vesicles, or shut socks, technically termed *bursæ mucosæ*, containing synovia, or joint oil, a lubricating fluid to prevent friction, in sufficient quantity for all ordinary purposes of the animal. But when the horse has been compelled to undergo exertion beyond that which is natural and beneficial, an increased supply of synovia is secreted, which distends the capsule: a repetition sets up chronic inflammation of the synovial membrane—morbid secretion and visible enlargement is the result. There are very few horses that have done much work that are without them.

Though rest and pressure will diminish them, when once enlarged, labour will be sure to reproduce them; they seldom occasion any local disturbance, and are of no consequence beyond the blemish, unless they are very large; and in most cases may be regarded as mere indications of hard work.

THE PASTERNS are the seat of a bony tumour termed ring bone; it is the result of inflammation and partial conversion into bone of that portion of the cartilages of the foot which rise above and nearly

encircle the coronet. These cartilages, extending backward considerably beyond the coffin bone, form the elastic frame of the posterior parts of the foot; they here take on the name of the *lateral cartilages*. When once ossified inflammation is set up in this part, from its tendency to spread around the pastern joint, it has taken its name of ring-bone. When, however, the ossification appears only at the quarters, it is termed *ossification of the lateral cartilages*, or side-bones. It is discovered by their prominence and their rigidity, when pressed between the finger and thumb. Upon the integrity of these parts depend the elasticity and consequent usefulness of the foot. However trifling the apparent alteration of structure, it is a serious detraction from the efficiency of a hack; though, on soft ground, at a slow pace, the draught-horse will work apparently sound.

We now arrive at the foot, the foundation of the horse, and too much attention cannot be paid to it. If it is imperfect, all other perfections are valueless. The best way of judging whether there is any malformation of the feet, either natural or the result of disease, is to front the horse, and compare the two feet together; small feet are objectionable; and so a very large foot, that is disproportionate to his size, is to be avoided.

Its wall should be round, smooth, level, and of a shining dark colour; full in front, of a proper obliquity, and free from ribs or seams, and perfectly cool. Its proper obliquity ought to be at an angle of forty-five degrees with the plane of the shoe. If the angle is materially less, the sole is flat, or perhaps convex; if the angle exceeds it, the foot is contracted.

When the outward line or profile of the hoof is irregular, it marks what is called a "shelly foot." This is decidedly bad. If there are any protuberances or rings round it, they indicate that the feet have been effected with fever to such a degree as to produce unequal growth of horn: which frequently leaves some injurious consequences in the internal part of the hoof; such as a deposition of lymph between the horny and cartilaginous processes, which connect the foot and hoof together. If there is any depression or hollow, it betrays separation of the foot from the hoof, and sinking of the coffin bowl, and the sole will be found bulging.

No man should trust to a superficial judgment of the foot; for though he may see the form and shape of the foot to be promising, yet there are other things to be considered. It may be well formed, yet thin and weak; and those feet, externally the most perfect, are sometimes contracted internally, and are liable to the insidious affection termed navicular, or joint capsular disease. Contraction is a serious defect; it is apparent and general, or occult (hidden) and partial.

When apparent externally, which is very common among high bred horses, with light heads and necks, high in the withers with sloping shoulders, and that go near the ground, the foot presents more an oblong than a circular shape; the curved line towards the heels becoming straight, and the heels approaching each other. The frog is hard, dry, and compressed; the foot small, and the heels upright; altogether, the foot more resembles that of a mule than a horse.

But though a contracted foot is often an indication of past disease, and there is a diminution of

elasticity, it is by no means follows that it is an unsoundness, or incapacitates a horse from work. With care, such feet will work soundly to the end of their lives; for this change in shape has been effected by gradual and slow absorption and deposit; so that nature has had time to adapt the internal parts, and accommodate itself to the change; for elongation of the foot has taken place. When such feet feel hotter than ordinary, distrust should be awakened, more especially if there is a marked difference between the temperature of one and the other. If there is indisputable pointing, then the horse is unsound.

Occult or partial contraction is not obvious externally, but there is diminished cavity of the horny box from increase of the sole in thickness. In this case we usually find the foot of a circular figure, more upright than natural, and displaying unusual appearance of compactness of form and strength, the soles unusually hard and thick; and if you have a firm unyielding sole, in a circular foot, it is a rock of danger, and the forerunner of navicular disease.

The inner quarters of the hoof must be most minutely inspected for sand-crack; and it is not always easy, without minute scrutiny, to detect a sand crack, where an attempt has been made to conceal it. A month's run in marshy ground will often close it up, and low dealers, particularly at fairs and markets, and others who gain a livelihood by dealing in "screws," have a knack of neatly covering the crack with pitch, and the foot oiled, so as adroitly to conceal the crack; any oily appearance about the hoof should excite suspicion, and any fissure at all resembling sand-crack should cause the horse to be peremptorily rejected. Cracks indicate a dry and brittle hoof. The heels should be examined for any

cracks, or appearance of heat and tenderness, as they are exceedingly troublesome to cure.

The frog, in its healthy state, must be firm yet pliable and elastic. If there is any smell, or if on squeezing the frog matter exudes, there is a thrush. By many people, thrushes are considered of little importance; but when it is considered that where there is purulent matter there must have been inflammation; and that when a horse with a thrush steps on a stone he frequently drops with the pain as if he was shot, to the peril of his rider and the ruin of his knees, it must be admitted they are serious objections in a saddle horse. If it can be ascertained that they are not of long standing, or that the horse has been placed in a situation so as to favour their approach; such as confinement on hot moist litter, they are of no more consequence than so much diminution in his price as will cover the expence of keep and attendance while healing; but when a thrush accompanies a foot smaller than usual, the heels wind in, and the frog rotten, let him go as he will, he will not long remain sound.

The sole of the foot should be subject to close examination; in its healthy and natural state it is inclined to be concave, but if in connexion with high heels an extraordinary concavity is present, it is a sign of internal contraction; if the sole is morbidly thick and does not give way during great exertion, the elasticity of the foot must be diminished. If the sole is less concave than natural, or approaching to flat, the foot is weak.

If the foot appears to have been lately cut unusually deep at the angles, where the shoe meets the

inside heel; or if there is any peculiarity of shoeing at that part, the examiner may infer all is not right, and that he has corns; and if he waits for the proof, send for the farrier to remove the shoe.

The stifle is very rarely diseased; but it should be examined for enlargement, or any marks of firing, or blistering: and the groin should not be overlooked for rupture.

The hock is one of the most important joints in the animal machine, and should always undergo the most rigid examination previous to purchase, as from its complicated structure, and the work it has to perform, it is the seat of lameness behind in nine cases out of ten.

When standing behind the horse, if one of the hocks is diseased, the observer will perceive the bone does not incline gradually, as in the sound limb, but there is an abrupt prominence. Though to the unpractised eye this is not always perceptible on comparing them, yet by passing the hand down the inside of both hocks, this abruptness will be felt. If there is any tenderness or heat, on pressure, or the marks of recent cutting on the inside of the fetlock, or unequal wear of the shoes, especially at the toe, you may suspect spavin. Sometimes both hocks present an enlarged appearance, though there is neither heat, pain, or lameness (for hock lameness is frequently intermittent) such hocks should always be looked upon with suspicion, they are in fact unsound; for though the animal may, with natural malformation or exostial growth, the result of disease, discharge his usual functions through life, without a return of lameness in careful hands: yet the probability is he will fail, if called upon for any unusual exertion, and

that one day's extra work will ruin him for ever. In this case, the examinant must be guided by circumstances, if the horse has excellencies which counter-balance the defect, the price is correspondingly low, and if the work required is but moderate, he may be servicable for many a year.

Certain forms of hock are more subject to disease: those approaching each other, termed low-hocks, are predisposed to spavin and curb; those in which the point of the hock inclines too much backward, are liable to spavin, and when the hock is too upright, narrow and straight, it is subject to thoroughpin. Capped hock is a soft fluctuating tumour on the point of the hock, it is an enlargement of one of the *mucous capsules* which surround the tendons inserted into that part. It is produced by blows, lying on rough stones, or kicking in the harness or stable, and is therefore frequently a sign of vice.

Curb is a longitudinal swelling at the back of the hind leg, three or four inches below the hock, seen best from the horse's side; the enlargement is the result of sudden strain of the annular ligaments, or inflammation of the sheaths of the tendon. It is attended with a good deal of lameness and swelling at first; but when that has subsided, and if any time has elapsed without a recurrence of the lameness, it is of no more consequence than the unsightly blemish; but it should be remembered that curby hocks are liable to spavin.

THOROUGHPIN is situated above the hock joint, between the flexors of the hock and foot projecting on each side; it is of the same nature as windgalls, being an enlarged mucous capsule, and is indicative of severe work or over exertion.

Bog, or blood, or spavin, is a swelling situated in front of the hock, towards the inside of the joint; it is also an enlarged mucous capsule, but deeper seated; over which one of the sub-cutaneous veins passing, the blood in which becoming obstructed in the return, increases the size of the tumour.

The shanks should be scrutinized for any symptoms of weakness, and the fetlocks for marks of cutting and windgalls.

The front of the hind feet should be examined for fissure; it is a most serious defect, and generally produces lameness. Notice the way in which he is shod, as it leads to the discovery of lameness and defects in action; though in dealers' stables you will rarely see any peculiarity in shoeing.

If the toe of the hind foot is found to extend a little over the shoe, it is to prevent "hammer and click" from being audible. If the toes of the hind feet drag, or we find the shoe squared off or worn, we may suspect disease of the hocks; and if the inside of the shoe is bevelled off, it is the sign of a cutter.

He should now be backed, to ascertain if he has received any injury of the spine; if he backs with difficulty, his hind quarters swaying from side to side, and when compelled to retrograde suddenly he appears as if about to fall, he has received some injury. Some horses cannot be made to back, but when urged rear on their hind legs. His loins should be searched for marks of setons, or blisters. Among stable men it is termed "chinked in the chine," or, rigged in the hock.

A singular symptom of diseased spine sometimes

shews itself where nothing had been previously suspected, that is, of sometimes dropping when turned suddenly in the trot, the hinder quarters appearing as if paralyzed; in one case, after several ineffectual attempts to reproduce it, it was developed by a man startling him from a stable door as he trotted past it up the ride.

There are many blemishes and defects that render a hack unservicable, which are of little or no consequence in harness. The greatest virtue in a gig horse is steadiness, which can only be ascertained by trial, and do not trust to the steadiness he evinces while the reins are in his owner's hands. The author of that admirable little work "The Adventures of a Gentleman in search of a Horse," truly says, "whoever buys a Stanhope horse without first driving him himself, is a fit subject for a commission of lunacy; it is not enough to put him in the break, he should be harnessed at once to the Stanhope, and it is prudent to observe how he bears the ceremony of harnessing, and what kind of a start he makes. Much may be predicted of his qualifications for draught, or at all events his familiarity with the collar, by the degree of quiet with which he allows himself to be put to.

"If the ostler runs alongside of him at setting off, as is often the case, you may be sure the horse is distrusted; if you distrust it yourself, have nothing to do with him."

THE EYES.—The horse should now be returned to the stable for the purpose of examining his eyes, the most favourable position for which is about half a foot within the stable door. There should be no back or side lights, or the rays falling between the

eyes of the examiner's and the animal's will prevent him seeing distinctly. The head should be so placed that a moderate light should fall on the eye of the horse, and the quantity of light can be easily regulated by bringing the horse's head more or less forward until it is placed in the most favourable direction for observation.

Though every horseman can detect absolute blindness, yet the eye of the horse is susceptible of so many diseases, in which defective vision or partial blindness exists in such a form, long before the sight is lost, that it requires not only more observation than most people imagine, but a person unacquainted with its anatomical structure, and the different appearances it assumes, cannot perceive it at all. There are certain forms of the eye, and structural peculiarities, that shew a constitutional predisposition to disease—thus, small sleepy eyes, of a blueish gray colour, or when they have a flat retracted, and sunken appearance, or those of a longish oval figure, are predisposed to *ophthalmia*, or when the eyes appear full, with a fleshy circle around them, these are all symptoms of badness of eye, and are the forerunners of blindness, particularly in the heads of coarse and fleshy horses, with heavy countenances, who usually go blind with cataracts at seven years old.

Slight thickenings of the lid or puckering towards the inner corner of the eye, a difference in size, a cloudiness, or dullness of the iris, are several indications of disease, that a purchaser should beware of.

In examining the eyes, both must have an equal degree of light; if any difference is apparent between them, one must be diseased. The cornea, or transparent part of the eye, should be perfectly clear.

Specks are best detected by standing at the shoulder; if one is evident, and it can be clearly proved to be no more than the effect of accident, no importance need be placed on it. But it is impossible to ascertain this, and therefore the safest course is to assume that natural irritability and consequent inflammation of the eye is the cause.

Specks on the transparent cornea are generally the result of external injury; there is seldom more than one, when very small and near the circumference, they are of no consequence, but if large, or near the centre, they interfere with distinctness of vision, and make the horse shy. If opaque or milky lines are traced on its surface, bespeaks the remains of former inflammation.

But it is necessary to observe that horses, before the age of three years old, have that transparency in the eye which they lose afterwards, because the vessels of the eye are full, therefore before the age of three years the brilliancy of the eye that denotes soundness.

If the eye is watery or red, it denotes debility, and should excite on a more than ordinary scrutiny; in fact, all horses with weeping, dull cloudy eyes, should be rejected as unsound.

It may be remarked, as a general rule, that all diseases of the eye are incurable. *Have nothing to do with a horse when the slightest trace of disease of the eye is visible.* As it is impossible, from a superficial examination, to distinguish between simple opthalmia and inflammation of the conjunctiva, the cause of which has been a blow, or the introduction of some irritating matter, such as a piece of dirt or hay-seed, which is curable by simple means, and the

specific ophthalmia, a spontaneous affection, which ultimately terminates in cataract and blindness.

Viewed in front, the depths of the eye should be looked into; then sideways; which will assist in ascertaining the clearness and absence of specks, on or within its surface.

Floating in the aqueous humour (which preserves the convexity of the cornea) is the iris, a muscular membrane whose dilatation and contraction forms an oval aperture, termed the pupil, which varies in size according to the quantity of light which falls upon the eye.

The iris varies very little in colour in the horse, though it bears some analogy to the colour of the skin. It is rarely lighter than a hazel, or darker than a brown; except in milk white, cream coloured, or pied horses, when it is white, and they are termed wall-eyed. If it is of a pale variegated cinnamon colour, it is good.

The pupil or aperture of the iris, is that horizontal oblong blueish opening, which admits the light to the posterior chambers of the eye. It is important that the oval shape of the pupil is perfect, for if any irregularity or unevenness is perceived, it is a symptom that the organ has received partial injury. In looking into the depths of the eye, through the pupil, in a strong light, it should exhibit a lively blueishness; in a moderate light it should be perfectly transparent; if milky or turbid, it is the remains of former inflammation, which will probably recur.

In bringing the horse out of the stable to the light, if the pupil is large, it is a bad sign; by alter-

nately shading and admitting light, if it enlarges and lessens under its stimulus, it is an infallible sign the eye is good. But if the retina is unmoveable, the pupil larger than natural, and of one invariable size when shaded or exposed to intense light, through no disorganization is apparent, the eye appearing bright, of a peculiar glossy aspect, and of a greenish colour, the animal is blind from the disease termed glass eye: a palsy of the optic nerve.

A decided cataract, or opacity of the chrysaline lens, or its capsule, is easily detected; but when very small, they may escape observation. It appears as a cloudy or pearly white substance within the pupil towards the bottom of the eye. If the pupil be round instead of a flat oval, it is an indication of cataract; when there is the slightest deep-seated cloudiness, the eye should be condemned; but if there is any white object before it, such as a white hat, neckcloth, waistcoat, or wall, the reflection on the cornea produces a mark having so much the appearance of a cataract as to have misled many an experienced observer. Therefore, before deciding, hold the crown of a black hat against the eye, and observe at the same time if the mark disappears, which it will if it is only a reflection.

If your examination has proved satisfactory, and you decide on purchasing; before you part with your money, learn something of the seller. For should your bargain not turn out as you anticipate, upon further acquaintance, trial, and second examination, you will know what chance of remedy you have against the vendor.

The horse, if returned, must of course be in the same condition in which he was received, except so

far as the disease for which he is returned may have progressed in the mean time.

It is advisable to enquire of the seller how he has been accustomed to diet and clothe the animal; whether his feet were stopped; and the same treatment should be pursued till his soundness is ascertained.

Note the temperature of the stable; if his new habitation should be hotter, it is probable you may induce an inflammatory attack of the lungs.

Beware of putting a saddle on a new horse that does not fit him; while the question of soundness is still doubtful, it is far better to use the saddle he has been accustomed to.

If his back becomes galled while trying him, which is not an unusual occurrence, the dealer will object to take him back, unless full compensation is made, and reasonably so, for he is unfitted for sale or for work till it is healed, which is not to be effected in a day; and it is also a point for calculation, whether he may not chance to fall sick, while standing in high condition in stable; in which case the dealer would be subjected to heavy loss.

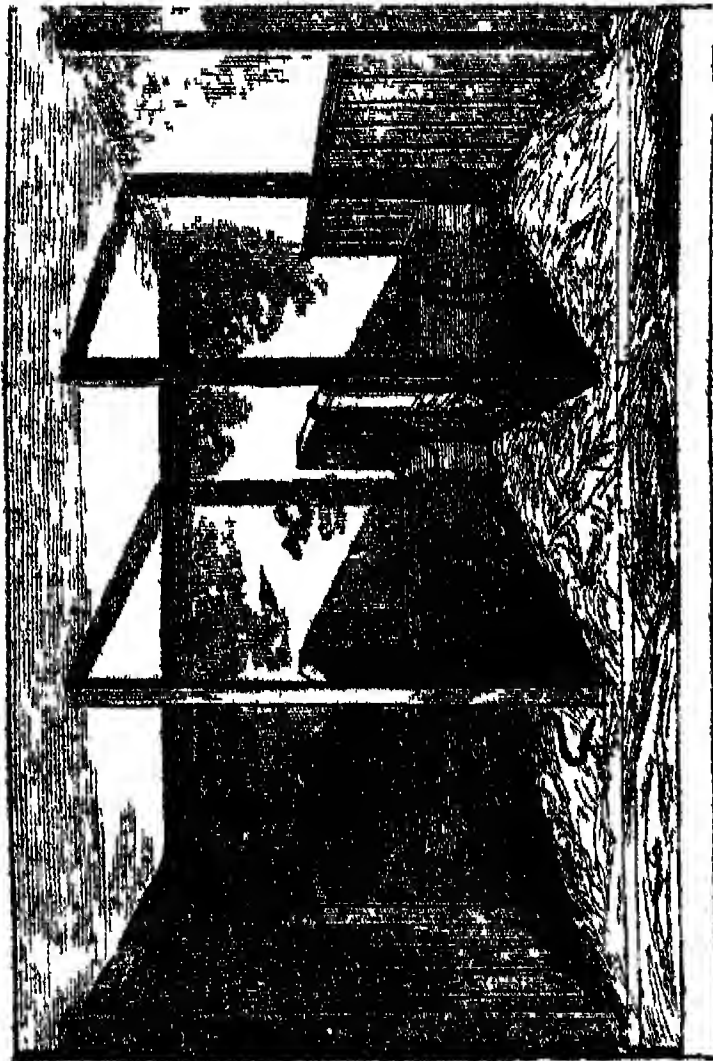
It is therefore not prudent to remove his shoes, or in fact to do any thing with the animal which may cause doubt or cavil, until you have finally decided upon keeping him.

THE STABLE, AND GROOMING.

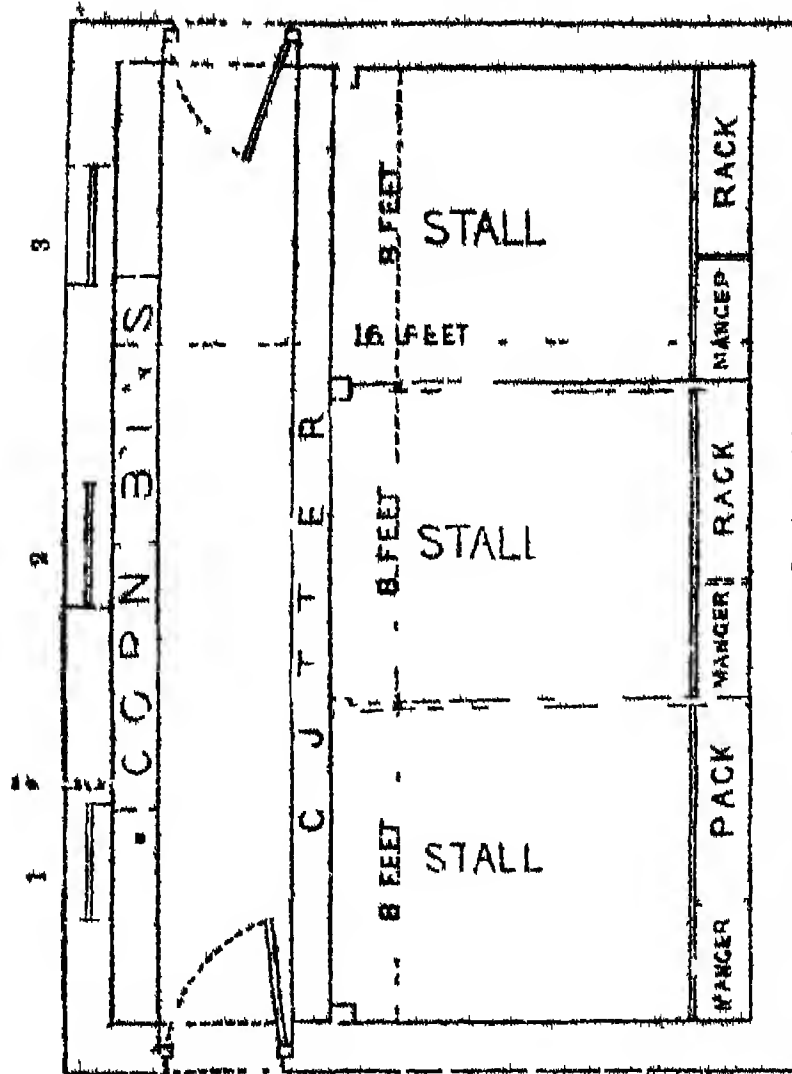
BEFORE we proceed to the management of the horse in the stable, it will be as well to say something about the stable itself. This should have been con-

constructed so as to contribute to the health and comfort of the horse; and be well-aired, dry, well drained, light, and sufficiently spacious to allow the necessary grooming operations to be duly performed. It should also be sheltered from the coldest winds, and be easy of access.

A fault not sufficiently avoided in stables, is the crowding too many horses together in a comparatively small space: in this case, the temperature is liable to very considerable alternations of heat and cold—transitions injurious to health, and productive of a train of diseases affecting the chest and lungs.



Stables which do not contain more than from three to six stalls, are most conducive to the health and comfort of horses. This drawing and the ground plan exhibit the best arrangement for a building of this kind.



The first section shows the stable in its complete form: it is intended for three horses. This section may be considered as the ground plan, in which the size and formation of the several parts are distinctly defined.

The parts numbered 1, 2, and 3, are the windows, which must be as elevated as high as the height of the stable will permit.

It will be observed that there are two doors to this stable, one at each end, but it will be also noticed that they open so that no current of wind can affect the horses. The stable must be so paved that all the wet shall drain into the gutter, and out of that by another drain to carry every thing clean away.

The walls of a stable should be built of brick,

upon a grouted concrete foundation, which will effectually prevent the walls from ever becoming damp.—Stone is occasionally used; but it has no advantage over brick. The wall should not be less than nine inches thick; but if fourteen inches thick, it will be better. Stables should not be constructed of wood; they are always too cold in winter, and too warm in summer. The inside of the walls may be plastered or boarded; but the stalls should all be lined with wood, in front, for about three feet above the manger, and sideways to the full height of the partitions.—Stalls so lined, are very durable; and when the upper part is plastered, the whole stable has a clean and comfortable appearance.

Single-headed stables, that is, those wherein the stalls are ranged on one side only, are decidedly the best: double-headed stables, where the space between is contracted, are very objectionable, as many accidents arise from horses kicking at each other: which some are very apt to do, when others are leaving or entering the stables; indeed, some mischievous horses will kick whenever another horse passes or is placed directly behind. Where the stable is double-headed, the space between the rows of stalls should not be less than six to eight feet in width.

The door of the stable, should be full five feet wide, and not less than eight feet high. It is too generally of a less width; but as the custom of low and narrow doorways is occasionally productive of accident, particularly with strange and shy horses, a greater width and height are recommended as far preferable. The sill of the door should be raised three or four inches above the outer surface; and if bevelled off, so as to afford no obstruction to the entrance, it will be better.

Windows are very often too much neglected, or too small, or ill placed. Light thrown down from the roof, by means of skylights, which partially open or revolve, and can be readily opened or closed by means of a cord, are excellent, as affording good ventilation. In all stables, high windows answer well, when of sufficient size, and so placed that the light shall not fall directly upon and affect the horses' eyes. To obviate this as far as possible, they must be high in the wall, and in sufficient number to give a good light.

It is a mistaken opinion, that but little light is requisite in a stable. No horse was ever known to thrive in a dark stable; but many a good horse has had his sight seriously affected by this absurd and mischievous practise. It may answer a dealer's purpose to keep his horse from the light till brought out to be sold. When brought out from a dark stable into the light of day, a horse very naturally stares about him; he looks high, carries his head high, and appears as if he had a good deal of action and animation. Dark stables may thus suit particular purposes; but they invariably injure the horse's eyes; to say nothing of the necessity of light in the several grooming operations, as well as in the numberless cases which arise wherein immediate assistance is necessary.

The roof of the stable usually forms the floor of the hay-loft: in this case the ceiling must be at least ten to twelve feet from the ground, and higher, if more than four horses be kept in the stable. Where there is no loft above, the height should be greater; because, in summer, the sun makes the tiles or slates hot, and the stable becomes like an oven; while, in winter, the cold, and sometimes snow lying on the

roof, converts the stable into something like an ice-house. Such extremes must be avoided: they are prolifically productive of disease.

It will be useful to keep a barometer in the stable; and the nearer to the temperate point the temperature can be maintained, the better. No ill scents should ever be discerned in a stable; these are easily avoided; a due regard to cleanliness, a good ventilation, and a perfect drainage, will prevent any noisome smell, and keep the stable sweet and clean.

The flooring of a stable is an essential part of the internal economy, and requires particular attention. It is the practice, in many places to lay the floor of stables with freestone; in other places, hard small bricks, arranged on edge, are employed. Both are good, and each has its peculiar advantages, the brick floor affords a firm foothold, and is easily kept clean; but it is not so durable as the pavement.—The stone is more lasting; but it is apt to get glazed, and then the horses are likely to slip about, and may break a leg or slip the shoulder. Deeply cut grooves may prevent this. Floors paved with small stones, after the manner of a causeway, are objectionable, unless the foundation be made of grouting, and the stones laid in the same; otherwise, the spaces between the stones receive and retain the urine, and return it again by evaporation; hence the stable is never sweet and seldom dry; and damp stables are very injurious. Floorings made of asphalt, or other bituminous concrete, on grouted foundation, are very good; they afford a good dry footing, and are easily kept clean.

A very recent addition to the material previously employed for flooring of stables, has been furnished; this is cautchouc, or Indian-rubber.—How far this

may prove useful, has yet to be seen; its introduction has been too recent to warrant any very decided opinion upon its merits; but judging from analogy, we consider ourselves justified in saying that it bids fair to succeed, and should it do so, there can be little doubt of its superseding all other descriptions of floorings in the stables of the wealthy.

Equal in importance with the flooring of the stable, is its drainage. one of the most effectual ways of procuring this, is to make a drain, the whole length of the stable; and have a gutter leading to a grating placed at either or both ends: the flooring of the stalls should have a slight inclination, so that the urine, &c. may drain or run into the gutter, and be conveyed thence into the drain. The end of the drain should never be exposed to the air, but should have a stink-trap, or air-trap, which will effectually carry off the water, and prevent any noxious vapours from arising.

Never put more than one horse in a stall; rest, in a recumbent posture, is of the utmost importance to working horses; a narrow stall is therefore, from this reason, a serious evil, as it prevents the horse from taking the rest so essential to his being able to resume his labour. Nor can a horse do full work, unless he have a good bed: possibly, instances may be known where a horse is cramped in a narrow stall, where he can neither lay down nor stretch his limbs, but be compelled to stand all night; and yet such a horse may even continue to do a good deal of work; but, sooner or later, this kind of treatment produces the most disastrous results; gourdy legs and greasy heels are induced, and a premature breaking up of the horse's strength is the inevitable consequence.

The ventilation of stables is, comparatively speaking, a modern improvement; for it was not till nearly the close of the last century that public attention was called to the evil consequences of the system previously adopted, that of closing up every aperture by which air could enter, and rendering the stable more like a hot-bed than a resting place for animals which breathed and required a pure atmosphere to breathe in.—Before this period, no groom ever thought of admitting fresh air into a stable; some thought it of no use, while others considered it as highly pernicious.—Mr. J. Clarke, of Edinburgh, was the first to protest against close stables, as an unhealthy and pernicious custom; and no sooner was the subject enquired into, than it was ascertained that at least one half of the diseases to which horses were so commonly subject, were produced by close, hot, unventilated stables.

In guarding against this evil, however, its opposite must be avoided: stablemen generally understand that warmth is congenial to the nature of horses, and argue that, to look well, a horse must be kept warm. This is in part true, but not wholly so: we recommend *warm*, but not *foul* stables;—this is the great distinction which should be kept in mind; foul stables are always hot,—but warm stables need not be foul;—it is the impurity of the atmosphere of the stable that does the mischief; and it is this very impurity that we strongly insist upon as the evil which must be avoided.

No breathing animal can continue in the enjoyment of good health, without a constant supply of pure air: this truism is the basis of ventilation: pure air is composed of two gases, termed nitrogen and oxygen, in the proportion of about two parts of the

former to one of the latter. An animal in breathing inhales the oxygen, which is absolutely essential to its well-being, and which, passing into the lungs, purifies the blood; the same animal gives out another sort of gas, which is expelled by his nostrils, termed carbonic acid gas, and which contaminates and makes impure the air into which it is breathed. Without a continuous supply of good air, it is impossible for the purity of the atmosphere of the stable to be maintained; and unless it be kept up, the blood of the animal which inhales an impure air, becomes vitiated, and the system diseased, or, in other words, the horse becomes predisposed to a number of diseases, and his constitution is readily acted upon by any change in the weather, or other exciting causes, that, under a more healthy state of the blood, would not affect the animal.



Having shown some of the evil consequences of a want of ventilation, we now proceed to advise as to how this desirable end may be obtained.—Many grooms acknowledge that the stable is too hot, and to remedy the inconvenience, make holes in the doors or walls, to cool it. Now this is only an aggravation of the previous evil. it is not cold draughts of air that will do any good—they rather do mischief in producing colds, coughs, and a host of other diseases of the chest and lungs. it is the purification of the atmosphere that is required, that the horses may breathe a pure and not a tainted air.

We have shown that the atmosphere of a stable, under the most favourable circumstances, does not contain more than one part out of three of pure oxygen, the gas essential to health and life; we have also shown that the horse inhales a portion of this
a every time he breathes, and that he exhales

from his lungs another kind of gas, termed carbonic acid gas, which mixes with the air of the stable, and deteriorates its purity. Ventilation, properly effected, will remedy this defect, or impurity, by allowing the escape of the impure air, and substituting good in its stead.

The impure air which is exhaled from the horse's lungs, is necessarily warmer, and of course lighter, than the surrounding atmosphere; for this reason it ascends or rises upwards. If there be means for its escape, it will do so; if there are no such means of escape, it becomes cooler, and so soon as it loses its heat it descends, mixes with the air which fills the lower part of the stable, and is breathed and re-breathed again and again, until so little pure oxygen is left in the air of the stable, that the quantity which the animal economy demands cannot be furnished, and the blood becomes impure.

To furnish means for the escape of the impure air, make apertures, or holes, from eight to ten inches square, in the upper part of the walls, one to each stall. In cases where a loft is over the stable, these apertures should be conveyed through the roof, which is easily accomplished by pieces of zinc pipe; by this means, the foul air, in its escape from the stable, will not affect the hay. If it be not convenient to make an aperture for each stall, at least take care to make one at each end, and, if possible, one in the middle, of the roof or ceiling: in this case, each aperture should be rather larger than the size previously given,—if there are but two, let them be at least double the size; if three, let each be about two-thirds the size; and so on, that, in effect, they will furnish as much room as is equal to a square space of nine inches for each horse kept in the sta-

ble. The apertures, or ventilators, when only nine inches either way, will not require any covering, except when the stable is occupied by less than one half the number of horses usually kept therein, or quite empty; but it will be as well if the larger spaces be made somewhat in this form,  because that shape will keep out the cold air, while it will not in the least affect the escape of the impure air. It need hardly be said each tube or hole that is exposed to the open air, should be defended by a cap, or cover, thus: .

But it is not only necessary to provide for the escape of foul air, it is also essential that a stream of pure fresh air should be provided, in order to replace the waste of oxygen by breathing.—This may be effected by a long tube or pipe running the whole length of the stable, and open at both ends, the ends being outside the walls, and defended from vermin by a grating at each end.—Along the upper part of this tube, a number of small holes must be perforated which will admit pure air into the stable without inconveniencing the horse; for, of course, it should not be placed at that part of the stable fronting the head of the horse; but at the back of the stable, with the space intervening between that and the stalls. The ventilation will by these simple means be complete, and the healthful operations of the animal economy ensured.

The hay-loft, the granary, or corn-bin, and the manger, all demand notice; but as the present work, where space is limited, a general notice will be sufficient.—The hay, whether kept in a loft over the stable, or over the coach-house (which latter is preferable) should be free from taint or smell, and be often turned, so as to keep it sweet and fresh. The

granary, or corn-bin, should be kept free from dust, which is apt to accumulate, if not occasionally cleaned out.—The manger, or trough, which contains the corn intended for the horse's food, is usually made of wood; we, however, prefer those constructed of iron, something of a stove-grate form, and fixed to one of the upper ends of the stall. The manger should be kept clean; unless it is so, it contracts a fetid sour smell, or becomes musty; and in either case a horse, particularly if of a delicate stomach, may be prevented from feeding. Care and cleanliness will prevent this. Mangers, if made of wood, are often as long as the stable: this is unnecessary; thirty inches length is amply sufficient; but in depth they are rarely enough, they should be at least twelve inches deep, and of about the same breadth. It should not be flat at bottom, either within or without, a flat bottomed manger injures the horse about the head when rising, and about the legs or knees when pawing: from these reasons, it is best if concave within, and convex without.

Previously to bringing a horse to your stable, you should enquire how he has been generally treated for too great a change, either in his food or treatment, may operate injuriously. Horses purchased from a dealer have most probably been kept in a warm stable, and been fully clothed, highly fed, and rarely exercised:—they may have fine coats, be in high spirits, and look lusty and well; but they are often totally unfit for work, are easily heated by exertion, and subject to take cold upon the slightest change of temperature. To prevent this, make yourself acquainted with the particulars necessary, and act accordingly, subjecting him by degrees to your peculiar mode of treatment.

GROOMING.

To enable the stableman to do justice to the horses under his care, he must be allowed the usual stable implements, as pails, brushes, brooms, forks, sponges, combs, towels, horse clothes, &c.—it will then be his fault if the horses do not receive the attention they require. The skill and care of the groom may be estimated by the condition and general well-being of the horses; if they look well, the care of the groom need not be doubted.

The duties demanded of a groom vary materially: in some places, he has charge of two horses only—one for his master and another for himself: at others, he may have two horses and a gig; or even three horses. Two horses are usually deemed a sufficient number for a groom to look after; but three can be well taken care of. Should there be a fourth horse, the groom will then require the assistance of a stable-boy, who, under direction and discipline of a good groom, soon becomes an useful helpmate, and attains to a very good knowledge of stable duties.

One of the essential qualifications either for a groom or stable-boy, is a patient, unvarying kindness to the horses under his care: another equally important feature, is cleanliness, not only as regards the horse, but also as to the stable, as well as in himself; for to keep the horse and the stable clean, involves the whole duty of the groom,—a duty easily learned when inclination and perseverance step in to give effect to practical instruction.

remarks for the proper performance of the
will commence with the morning, and

proceed with the usual daily routine; embracing some useful suggestions as the general treatment of horses on being brought in after a ride, a drive, or the completion of his usual daily task.

The groom should be in the stable at least an hour before the horse is wanted: he should then give the horse a little water, and his morning feed of corn: during the time the animal is eating his breakfast, his litter should be shook up, and the stable swept; which when done, it will be time to dress the horse, or to take him to exercise.—This method of procedure will vary with the seasons: in summer, it will often be advisable to exercise the horse a little before breakfast, giving him water in the stable, or while out, and his corn at returning; but in winter, he should be dressed in the morning, and exercised or prepared for work in the forenoon: at mid-day he is again fed. During the remainder of the day, the horse should receive another dressing, and be again exercised, unless he has to go out upon the road.

Horses for gig or road work are usually fed four times a day; saddle-horses have three feeds in the course of the same period.—Where four feeds a day are allowed, they should be given at stated periods, say, the first in the morning, again at noon, the third at or about four o'clock, and the last, or supper, about eight or nine o'clock, when the stable should be closed, and the horse left for the night.—If but three feeds only be ordered, let them be given at morning, noon, and night.—The daily allowance of corn for a horse, supposing the animal to be of a medium size and capacity, should be from twelve to sixteen pounds per day; and for every pound of barley, beans, or other similar food, given to the

horse, about the same quantity of oats should be deducted: the whole quantity is to be divided into nearly equal portions, and one part given at each time of feeding. Barley usually weighs about fifty pounds to the bushel, while oats, unless unusually heavy, rarely exceed forty pounds. Roots, such as carrots and potatoes, where they can be steamed and given warm, form an excellent change in the dietary of the stable. Barley and cut straw is another useful substitute; but in this case, the barley should be steeped in water ten to twelve hours before it is given. A postmaster at Southampton is said to have kept his horses upon this kind of food for a long period; and it is asserted that they worked as well or better upon this, than when they had so much oats.—Two pecks of barley and one bushel of straw were the daily allowance.

Every horse should be dressed at least once a day, besides the cleaning which is given after work; by this means the skin is kept in good order, and the friction exerts a beneficial influence upon the pores, conducive alike to health and appearance. The operation is simple, and is performed by means of a brush, a currycomb, and a wisp of straw or horse-hair. The brush removes the dust or other matter which adheres to the roots of the hair, and fills the pores of the skin. The currycomb serves to raise and separate the hairs that become matted together by perspiration and dust. The wisp may be considered as a duster; it removes the lighter dust and loose hairs not taken away by the brush; polishing the hair, and rendering the skin smooth and glossy. The brush, as before observed, penetrates to the roots of the hair, and clears the skin; while the wisp acts on the surface, and cleans and polishes the

hair. It is also used to raise the temperature of the skin, and dry the hair, when the horse comes in cold and wet.

In dressing a horse in the stable, the groom removes its litter to the head of the stall, and turns round the horse, to have his head to the light. With the brush in one hand, usually the left, and the currycomb in the other, he commences on the left side of the horse, and goes on till the head and fore-quarter are finished: his hands then change tools, and the like duty is performed to the right side of the horse.

Much care and patience are necessary to clean the head properly, the hairs running in such various ways, added to the inequalities of the face requiring more nicety than any other parts, excepting the feet; the horse is also sometimes impatient of his head being so long under the groom's hands: from these reasons, it is often too much neglected by careless grooms; which should never be permitted.—The dust about the roots of the hair, inside and outside the ears, is removed by a few strokes of the brush; but the hair itself is polished by quickly and repeatedly drawing the hands over the entire ear.

The whole of the fore part of the horse being completed, the horse's head is again turned towards the manger, and secured there, that the body and hind quarters may receive their share of attention.—It is usual to throw a little straw under the hind feet, to keep them off the stones. The clothes should now be taken to the door, and shaken; and, if dry weather, exposed to the air while the horse is dressing.

Every part of the body having undergone the required brushing and currycombing, the dust being

entirely removed from the skin, and the hair well polished, the whole body should be passed over with the wisp, and then the most laborious part of the dressing is concluded. The horse's clothes are now put on; his mane, foretop, and tail, combed and brushed so as to hang equally and gracefully; the eyes, nostrils, muzzle, anus, and sheath, are carefully wiped with a damp clean sponge; and the feet picked out, and, if necessary, washed. Should the legs be soiled; or wet with urine, wash them with warm water and soap, and rub them till perfectly dry. When the legs do not require washing, they should be well brushed, and polished partly by the wisp, but chiefly by the hands: the bed being then looked to, the horse is done up for the morning.

When the weather is fine, and not too cold, it will be preferable to perform the operation of dressing out of doors. But wherever done, it should be done properly. Idle and careless grooms rarely take the necessary trouble; hence they should be looked after, and made to do that which a sense of duty ought to be enough to prompt. It is not enough that the surface of the horse be cleaned; the wisp is all very well, but the brush is essential; the skin may look clean and glossy; but if the brush has not been used as it ought to have been, the neglect may be easily detected if the fingers of the hand be rubbed over and into the horse's skin; if insufficiently performed, a white greasy stain will be communicated; which will never be the case if the horse has been well and thoroughly dressed.

When the horse is about changing his coat, either the brush or the currycomb should be very lightly used; at this time, a damp wisp will be sufficient for all essential purposes, until the new coat has grown sufficiently.

The ears and legs require most looking to; they should be often inspected, and the groom's attention directed particularly to them.—Where the horse's legs have but little hair on them, they require a good deal of hand rubbing, and on no account should the legs, particularly when of a white hue, be suffered to become discoloured by dung or urine being allowed to dry on them.

Viciousness in horses should be controlled, if it cannot be wholly prevented; or a groom may suffer severely from a bite or a kick, that may injure him for life. Biting may be prevented by putting on a muzzle; or by tying his head up so elevated as to check this propensity. Kicking horses are most dangerous; they require great care on the part of the groom, as they sometimes strike out so quickly and so maliciously, that the groom is in great danger. A switch held in the hand, in the view of a kicker, and lightly applied whenever he attempts to kick, may be useful; but, generally speaking, the groom must try his best to soothe and coax the horse, and get over the business as expeditiously as he well can. The arm strap is sometimes used; but this is so often productive of injury to the horse by throwing him down, that we will not further recommend or describe it.

Dressing after work is essential, and should not be neglected or slovenly done. The process itself necessarily varies: horses that have been merely slowly-worked, only require to be dried and cleaned; those that have been at fast work, require more attention. In winter, the horse comes off the road, heated, wet, and muddy; and in summer, he is hot, drenched in perspiration, his coat matted, and sticking to the skin; at times he may be cool, but wet and wretchedly muddy. In summer, after easy

work, his feet and legs should be washed and dried, and his body dressed in the usual manner. The wisp dries where perspiration has moistened, the mud is removed by the currycomb, and the brush polishes the hair, and lays the dust.—When thoroughly wet from rain or perspiration, he must be dried, by means of the scraper and the wisp; and, when heated, he must be walked about till cool, and then cleaned and dressed.

The scraper is a very useful instrument: the groom, taking it in his hands, passes over the neck, back, belly, quarters, and sides, every place where it can operate; and with a gentle, steady pressure, he removes the wet, mud, rain, and perspiration; the legs are dried by a large sponge, being apt rather to be injured by the scraper: when thus treated, the horse, if hot, should be walked about a little; if cool, he must be wisped and dried.

No horse when perspiring copiously, after work, should be stabled or suffered to stand still; he being then especially susceptible of cold, or inflamed lungs. These evils may be prevented by keeping in gentle motion till cool.—The action of the heart, and the nerves, and their numerous auxiliaries, has been considerably increased, in their endeavours to aid the extraordinary muscular exertion demanded by the task to which the horse has been put to. The circulation, excited to a violent extent, does not tranquillize itself so readily when exertion ceases; the heart and the internal organs acting in unison, continue for a time the same energetic action which severe exertion requires, and, unless care be taken to prevent it, inflammation ensues, from the irregularity in the distribution or circulation of the blood.—Motion, gently kept up for a while, prevents this, from

the reason that it keeps up the circulation of the blood, and tends to allay the extraordinary excitement to which the entire system has been subjected. As soon as the pulse indicates a more natural coolness, say under forty pulsations in one minute of time, further motion may be suspended, and the operation of cleaning and putting the animal to rest, may be commenced. The heat of the skin is not a safe criterion, the state of the pulse is the only safe guide. The horse should be led, not ridden.

There are other cases in which walking a horse just returned from work, is useful, besides when violently heated from exertion. In rainy weather, he may be quite wet, but not heated; should there be no one at hand to dry his skin, he will soon begin to shiver. In any such case, walk the horse about for a time; for were he to stand at rest while in this state, a severe cold, and all its unpleasant consequences, would most probably be the result. This case is exactly analogous to where an individual stands still in his wet clothes; and the result in both instances are very nearly the same.

The best way to dry a wet horse, is to rub him with wisps; this however requires both strength and experience to do well; an idle or a neglectful stableman may rub a horse for an hour or more, and yet not half dry his skin. First, with the scraper, take away all the water you can; then rub the skin with soft wisps, often changing them, that the moisture may thereby be absorbed: the legs and under part of the body should be especially looked to. When the horse is thus dried, there is little probability of his catching cold; the friction of the wisp keeps up the circulation of blood, and the horse may be put up without any fear of mischief accruing.

It may, however, happen that a heated or wet horse cannot be immediately attended to, nor kept in motion.—In such a case, give him a scraping, to remove the worst of the wet or perspiration, and then clothe him; this will render him much less likely to take cold, and may be considered as an expedient to be resorted to in extreme cases, but only to be continued so long as the stableman is prevented from giving the necessary grooming to the horse; the moment the stableman is at liberty, let all the due attention be given.

The legs of horses are most particularly subject to dirt and mud; hence they often require washing, which is frequently done by stablemen, but unfortunately they rarely take the trouble to dry them; they are suffered to dry of themselves; the consequence is, evaporation commences, and although the inflammation which ensues may be allayed by subsequent treatment, yet greasy heels are too commonly induced by this mode of treatment. There is but one way to avoid these mischiefs, and that is, either be sure to dry the feet whenever you wash them, or do not wash them till you can dry them.

THE BED.—A good bed is essential to a hard or fast-working horse, and the best material for it is wheat-straw or oat-straw; the straw or haulm of beans or pease will not make a good bed, and can be more advantageously used as fodder.

A bed is not well made unless it is as level and even as a mattress; nor should it have any lumps or perceptible inequalities in it. If the straw be cut into two by a hay-knife, it will spread the better. Spread the litter well out, and let it be levelled on the top, and square behind: it should slope from

each side, and from the head, toward the centre.—If an inexperienced stableman have to do this, let him be properly taught, let him learn how to use the fork, and how to spread the litter. Let him have a pattern-bed made in an adjoining stall by an experienced hand, and let him copy this: a week's practice this way will be quite enough; if he do not learn in that time, he is not worth any further teaching.

The soiled litter and dung should be removed every morning, unless the horses are going to work; in which case it may be delayed till they are gone. The dry litter should then be thrown forward, and the wet and soiled litter all carefully removed to the manure heap; or put out to dry: the stalls and gangways may then be swept well out, and now and then, if necessary, and the weather be fine and dry, a pailful of water may be thrown down, to render the cleaning out more perfect. After the stall is dry, spread the dry litter well out, and add to the top as much fresh clean straw as is required to make up a good comfortable bed.

Once a week, or thereabout, all the bed should be taken away, and entirely renewed; but never cover wet and soiled litter with clean straw—it is a lazy and a dirty, as well as a wasteful, practice.

TREATMENT OF THE FEET.

EVERY time that a horse comes in from work, be sure to examine his feet, particularly the fore feet, for it often happens that a stone gets fixed in between the shoe and the frog, and if suffered to remain there, even for a few hours, may cause a

bruise or lameness, which a little care may prevent: indeed, whatever gets into the foot, whether sand, gravel, or stone, should be carefully removed: this will take but a few minutes, and will pay well for the little trouble it occasions.

STOPPING THE FEET,—is only practised on the fore feet, and, when judiciously performed, is attended with very good effects: but if the sole is flat and thin, it will be best avoided; the less moisture such a formed foot receives, the better, as it makes the sole yield too readily, and may tend to lame the horse. A mixture of clay and cow-dung is the stopping mostly used: clay, itself, is too hard; tow is often used for gig and road-horses, or horses that have thrushy feet: moss is also useful for the same purpose.

The manner of stopping a horse's feet is to fill the sole so as to be on a level with the shoe: tow or moss should be put in dry, and water poured on it once or twice a day, according to the moisture required. The object of stopping a horse's feet is to prevent the sole becoming hard and frigid from being too dry, and so laming the horse.

Some horses require their feet to be stopped much oftener than others: as a general rule, stop a horse's feet the night previous to his being shod; once a week will generally be found sufficient, from Saturday night till Monday morning, is a very good time to apply the stopping; but in hot summer weather, twice or three times a week will not be found too often.

It is sometimes the practice to anoint the crust or wall of the foot, that is, the part of the hoof which presents itself to the eye, when the horse is

standing on his feet: whether this plan is good or not, depends on the foot itself. To render a rigid, strong foot elastic, the horn should be saturated with water, and to keep it elastic, the ointment should be applied before the water evaporates; while to keep a thin, weak foot hard and unyielding, without making it brittle, an ointment should be used to prevent the absorption of water. In wet weather, a thin foot should be oiled before the horse goes out, and a strong thick foot after the horse comes in: in hot, dry weather, the ointment should be renewed every second or third day.

* The oil usually had for this purpose, is fish oil, for anointing the hoof; but a mixture made of equal quantities of tar, lard, oil, and bees'-wax, is a better and more durable application.

SHOEING.—The proper and timely performance of this necessary operation, is of the utmost consequence to the well-being of the horse.—Generally speaking, a month is the time between the last and the succeeding shoeing: Care should be taken, every time the horse comes in from his work, to examine his shoes as well as his feet; for want of this, it sometimes happens that a shoe drops off in the middle of a journey; not only is time then lost, but the foot becomes injured, and probably the horse lamed.

Fast-working horses require to have the feet pared at least once a month, without reference to whether they need new shoes, or not. If the horn be suffered to grow, the action of the horse becomes impeded; he cannot step out properly, nor place his foot firmly on the ground; from this reason it is necessary, at least once a month, to pare off the superfluous horn, unless the horse should be one having a deficiency of

horn; in which case, he may go five weeks or even more.—At any time, should there be a loose or broken nail, or a clench started, or if the horse be cutting, call in the farrier at once.

The shoe, and the proper time and mode of its application varies, in accordance with the weight of the horse and its action, particularly with reference to the state of the roads, and the nature of his work.—This part of the subject may however be left to the farrier, who will be but little fit to be intrusted if he requires to be told what to do; he should be the adviser, not the advised.

OBSERVATIONS AND SUGGESTIONS

RELATIVE TO

THE DISEASES OF HORSES.

It is the usual practice, when treating of the diseases to which horses are subject, to give a long list of disorders, the bare perusal of which might induce a belief that the stable would be little else than a hospital, and the groom totally inadequate to the performance of his proper duties, unless skilled in a knowledge of veterinary practice. We shall avoid this, by showing the cause of disease, and means of prevention, and treat the subject in a manner so as to enable the horsekeeper readily to recognise the nature rather than the mere *name* of the disease, and instruct him in the use of such medicines as may in many instances be sufficient to arrest the complaint, and tend to restore the healthful functions of the animal.

Diseases mainly arise from obstructed or impaired digestion. So long as the several organs of the animal body continue to perform their due and proper parts, so long ~~any~~ health and strength be calculated upon; but so soon as the animal economy is disarranged, and the action of any one or more of the organs rendered less capable of its proper energy, a predisposition to disease is engendered, which the slightest exciting cause may bring into active operation.

By *predisposition to disease*, we mean that state of the animal system which is induced by bad or improper food, by want of proper attention, impurity or foulness of the stable, exposure to variations in the atmosphere, or other causes, which affect some organic and internal part of the animal structure, or impair the purity of the blood: in such a case, actual disease may not be present, or at least not perceptible by any outward indication; yet the slightest exciting cause, as sudden exposure to weather, checked perspiration, or the like, may cause a serious indisposition, that, under a more favourable state of the horse's constitution, might probably have passed over without leaving any serious proof of its existence.

Predisposition to disease is, then, that liability of the constitution to an attack of illness, which care and attention will often prevent; but which neglect or bad grooming at once induces and increases.

We have before noticed, in our remarks on the ventilation of the stable, that pure dry air is essential to a healthy state of the blood; we need scarcely add that good nourishing food is equally essential to the well-being of the animal; to understand this pro-

perly, a few words on the digestive powers of the horse will not be inappropriate.

The food taken by the horse gathered up by his lips, and being cut by the action of the front teeth, is conveyed thence to the grinders, by which it is thoroughly masticated, or chewed; it is then, by the united action of the tongue and other muscles, conducted to the gullet, from whence it descends into the stomach. Here it is acted upon by a powerful solvent, provided by nature for the purpose of accelerating the digestive operation, called the *gastric juice*, and reduced to a pulpy mass, termed *chyme*; this mass, yet but imperfectly digested, is then propelled into the first bowel, where other intestinal juices commingle with it, and perfect the digestive process; it is now termed *chyle*; and it is in a state ready for combining with the blood.—The chyle now enters the small intestines, and is conveyed, by a peculiar motion of the bowels, to certain minute orifices, called absorbent vessels: in this part of the process the pure chyle, now a milk-like fluid, is absorbed by these vessels; the other portion of the food eaten by the animal, the excrementitious part, having had all the nourishment extracted in the course of the digestive process, is propelled by the same peculiar motion of the bowels, previously noticed, along the whole extent of the intestinal canal, or gut, and ultimately expelled the body.—The pure chyle is conveyed, by the absorbent vessels, into a large receiving tube, called the *thoracic duct*, from which it is received by a vein near the heart, and taken thence to the heart itself; from whence, after being acted upon by the vital air, or oxygen, in the lungs, the blood, now completely perfected, is received, as required, by the left *ventricle*, or main

passage from the heart, and conveyed thence, by the circulating channels, over the whole system.

This brief description of the digestive process is, as far as possible, divested of the technical names of the several intestinal organs employed or engaged during the digestive process; our object being to show how that process is conducted, and to prove from thence, that if bad or improper food were given to the horse, or if by needless exposure to weather while the animal was heated by exercise or chilled by cold and wet, some one or other of those organs were to be affected, either by its action being impaired, or unnaturally excited, the system would be affected, the blood vitiated, and the health of the animal, thereby, materially endangered.

This view of the digestive organs of the horse will also enable the reader the better to judge how far it may be safe and prudent to attempt a cure, without calling in the aid of the farrier or the veterinary surgeon. As a general rule, it may be observed, that in diseases of a *chronic* character, that is, of a slow or lingering nature, a greater latitude for the endeavour to cure may be assumed; but in diseases of an *acute* kind, that is, when the effects are immediate and evident, then greater care should be exercised; and unless the disease quickly yield to the remedial endeavours, proper advice should be called in, particularly in acute inflammatory complaints, where the attacks are usually sudden, rapid in their progress, and, unless soon checked, often dangerous in their result.

CATARRH, COLD, OR CHILL.—A large class^{of} of diseases may be included under these general terms; for although the horse may have what is usually

called a cold or chill, yet if this cold or chill be neglected or improperly treated, fever or inflammation succeeds, which may terminate fatally, or leave behind a chronic cough, an evil that should be anxiously guarded against.

The first observable symptoms of a horse being thus attacked, are—slight shiverings, a discharge, chiefly watery, from the nose, the eyes become similarly affected; and, as the disease progresses, a cough more or less violent, with quick pulse, comes on, followed by sore throat and evident difficulty of swallowing, the discharge from the nose thickens, increases in quantity, and assumes a yellow appearance.

This complaint is usually cured in a few days. Confine the horse in a stable of a mean temperature, say of, from 50 to 60 degrees, as shown by the barometer, and clothe him warmly. If he be in good condition, take from him two to three quarts of blood, and then give him the following mixture:

Fresh powdered aniseeds and
 carraway-seeds, one ounce each;
Dover's powders - - - - two drachms;
Balsam of sulphur - - - - two ounces;

Beat the balsam of sulphur into the yolk of a hen's egg, and then add the powders, mixing all well. When you give it to the horse, give it in a pint of warm gruel in which two table-spoonsful of treacle have been stirred. Repeat it every night, or on alternate nights, for three times. About an hour after the drink has been administered, give the horse a warm bran mash; and repeat the mash two or three times a day.

If the cough be troublesome, give him a pectoral mixture, made as follows:

Elecampane, and diapente, - - each, one ounce.
Cream of tartar, and nitre, - - each, one ounce.
Tincture of opium - - - - half an ounce.

Beat up, as in the former case, two ounces of balsam of sulphur into the yolk of a hen's egg, and then add the other ingredients, mixed up all together as a kind of electuary.—Dissolve it in a pint of warm gruel, and give it to the horse in the morning, fasting. do not give him any food for two hours, and then let him have a mash of scalded bran and bruised oats, and warm water. Repeat this every alternate day, for three times. Clothe him warmly, give him warm mashes and warm water, two or three times a day, and use him to a little gentle exercise, by walking him out for a short time in the middle of the day.

FEVER, AND INFLAMMATION.—In our account of the preceding disease, we stated that a cold or chill was usually attended with a fever or inflammation; but that which we are now about to describe mostly arises from excess of blood, and is usually produced by removing a horse from grass and putting him too suddenly into a stable, where he is fed upon oats and hay; or by feeding him too high, with little or no exercise.

Fever, when thus induced, does not require medicine; a copious and early bleeding, is the best means of cure. Bleed till faintness is produced; from one to two gallons of blood, should be taken. A light and moderate diet should be given for a few days, by which time he will have recovered. A dose of eight ounces of Epsom, or Glauber's salts, may be given

with advantage the day after the blood-letting, and repeated, if thought useful, on the fourth day. Let the horse be kept cool, not warmly clothed, nor in a stable where the warmth is any higher than temperate: if he be turned out into a field, when the weather is favourable, it will be as well.

INFLAMMATION.—When to the first symptoms of this disease, usually exhibited in a heaviness, redness of the membranes under the eyelids, want of appetite, and disinclination to motion, that of delirium or madness is added, when the horse becomes violent, plunges about, and endeavours to bite every thing, inflammation is then very active in operation, and must be checked.—In this case, a horse, after a fit of delirium, sometimes fall down, as if exhausted, and after lying for a time, gets up suddenly, and becomes as violent as ever. The treatment in this is the same as in the previous case, early and copious bleeding, but to a greater extent; he must now be bled until perfectly free from delirium, and at least two to three gallons of blood must be taken.—In other respects, the remedial treatment may be the same as in the preceding case.

STAGGERS.—This is also an inflammatory disease, but is produced by very different causes to either of the preceding: staggers are usually the consequence of improper feeding, or rather of unwholesome food, as bad or foul hay, or rank grass; and are evidently induced by a cause which impairs the digestive system, and leaves the stomach distended with undigested food. This disease is called by a variety of names, as lethargy, apoplexy, epilepsy, vertigo, convulsions, &c. it presents itself under two distinct forms, which may be described as sleeping staggers, staggers.

When the *sleeping staggers* attack a horse, he hangs his head as if unable to hold it up; is dull and inactive, and frequently falls asleep, even while eating, and with the food in his mouth: he reels or staggers about, as if intoxicated, and sometimes falls down insensible; the eyes appear watery and inflamed, and often, as well as the mouth, have a yellow cast about them: the pulse is very unequal, now slow, and then quicker than usual.—When to the watery running of the eyes and the deep stupor which attacks the horse, these are succeeded by paroxysms of violence and delirium, the animal plunging about, and beating himself against whatever stands in his way, a wild and unconscious look in his countenance, the disease may then be termed *mad staggers*, inflammation of the brain being now present.

As soon as the fit or attack of mad staggers is over, the horse falls down as if quite inactive for a few minutes; his eyes become dim, and his limbs stretch out, as if dying: his fits however soon resume their impetuosity, and he becomes more furious than ever. In this state it is dangerous to approach him; while if nothing be done to alleviate the disease, it terminates fatally.

The best remedial treatment for this disease, in either state, is early and copious bleeding, taking from four to six quarts of blood at once, and again in five or six hours, if necessary. Beat up into a ball, the following ingredients, and give it immediately after bleeding:

Castile soap, - - - - - two drams,
Calomel and assafoetida, each - two drams.

The following purgative mixture should be given immediately after the ball:

Aloes - - - - - seven drams;

Castile soap and ginger, each two drams;

Epsom salts - - - - - four ounces:

The aloes and ginger should be powdered together, and then well mixed, with the other ingredients, in a pint-and-a-half of rue-tea; simmer the whole about ten minutes, and give it milk warm.

The mixture will assist the operation of the ball, and clear the stomach of the undigested mass by which it is clogged.—If the medicine fails to operate briskly, within ten or twelve hours, the rectum, or last bowel, from which the dung is voided, should be emptied by a small hand, and the following clyster administered:

Water, warm, - - - - - one gallon;

Glaubers' salts, and treacle, each, four ounces;

Sweet oil, - - - - - half a pint.

The treacle and salts should be dissolved in the warm water, and the oil then added.

Before this clyster is administered, the lump of undigested matter, or hardened dung, the chief cause of the disease, should be taken away: to do this, let a small hand be dipped in the clyster, or rubbed with sweet oil, and gently passed up the fundament, till it feels the dung, which it should then bring away.—Then administer the clyster with a pipe about twelve inches long, and a strong bladder, with the clyster in it, fixed at one end, through which the clyster should be forced by twisting the bladder with your hands. As soon as it is passed into the horse, take away the pipe, and instantly hold a wisp of straw to the fundament for about ten minutes. This

is a better way of administering a clyster than when given by a syringe.

INFLAMMATION OF THE INTESTINES.—Like the preceding, this is an inflammatory complaint, and has a number of names, as enterites, gripes, inflammatory colic, &c —Over exertion, sudden change of temperature, drinking cold water while heated, or greedily eating of new hay, grass, or new corn, may induce it; but as it impairs the healthy action of the intestines, it must be removed, or it increases in virulence and often terminates fatally.

The presence of the complaint, usually first exhibiting only *windy colic*, is indicated by the horse often lying down, and suddenly springing up again; he refuses his food, stamps with his fore feet, and strikes his belly with his hind feet: his body is convulsed, his eyes turn up, and his limbs stretch out with a spasmodic motion: his ears and feet are sometimes hot and again cold; he falls into a profuse perspiration, which is succeeded by shivering fits; his endeavours to stale, evidently painful, are without success: he continually turns his head towards his flank, as if pointing out the seat of pain; he then falls down, rolls over, and turns on his back.

The more advanced stage of the complaint is attended with fever, heat and dryness of the mouth, tongue white, skin hot and dry, except about the ears, which are mostly cold; continued pain in the belly: he lies down, and rises again suddenly, but, in this stage of the disease, he does not turn on his back; pulse quick and small; and breathing short and quick.

If the pulse be quick, hard, and small, and any fever exhibit itself, then the inflammation has ~~at~~^{reached} its

tacked the intestines, and the remedial means must be immediately applied: of these, copious bleeding is the first and most efficacious: five or six quarts of blood should be taken at once; and if the symptoms do not abate, the bleeding should be repeated a second, third, and even a fourth time; but not so copiously as at first, the quantity being reduced to quarts, and at last to as many pints. After the first bleeding, give him a clyster, in the very same manner as recommended in the preceding complaint, (page 94), the small hand being used to remove the hardened dung, which is almost always present in these cases.—Repeat the clyster every three hours, for two or three times, till successful.

As soon as the first clyster is given, prepare and give the following drink:

Castor oil, (by weight)	-	twenty-four ounces;
Tincture of opium	- -	half an ounce;
Warm gruel,	- - -	one quart.

Repeat this about twelve hours, if a passage through the intestines be not previously obtained.

When the feverish heat has abated, the appetite partially returned, and the horse in a fair way of recovery, the following restorative drink, given milk warm, will be useful.

Aniseeds, and carraway-seeds, each,	half an ounce;
Ginger and Castile soap, each,	- - half an ounce;
Nitre and Peruvian bark, each,	- - one ounce;
Tincture of opium,	- - - - two drams;
Lentive electuary,	- - - - four ounces;

Mix these ingredients in a quart of warm gruel, and give it every morning or every other morning, fasting, for three or four times.

JAUNDICE, OR YELLOWS.—This is not, like the preceding, an inflammatory disease, but arises from a morbid or imperfect action of the kidneys. The use of the kidneys, in the animal structure, is that of absorbing, and passing off to the bladder, the urinary fluid, which, if not removed, would produce disease: an increased action thrown on the kidneys, as well as giving bad oats or musty hay, or fresh green tares in too great a quantity, causes inflammation of the kidneys or bladder, or both; which we shall presently notice.

The Yellows, or Jaundice, is a disease which rarely appears by itself; it is usually accompanied by some disease of the internal organs, its principal symptoms are—a yellowness in and about the mouth, and the inner parts of the eyes and eye-lids; the urinary fluid is of a similar colour, and the dung generally hard; the animal is dull and heavy, loses his appetite, has usually a low fever, and becomes weak and spiritless.

To cure this disease, first bleed the horse, more or less, according to the fulness of blood in the animal, or extent of the fever; but not copiously, unless inflammation be indicated by the pulse being quick and strong, and the extremities be unusually cold; in such cases, bleed more copiously, and afterwards inject the clyster in the way prescribed in page 94, repeating it once or twice in the same day.—About two hours after the bleeding, give a ball made up of the following ingredients:

Barbadoes aloes	- - - - -	two drams,
Powdered myrrh and Castile soap, each,		two drams,
Colomel	- - - - -	half a dram,
Tartarised antimony	- - - - -	one dram:

Make it up into a ball with honey, and repeat it once a day until it purges; after which, if fever still exists, give the following fever ball:

Antimonial powder - - - - - two drams,
Castile soap and camomile powder, each, two drams,
Camphor and honey, each, - - - - - one dram,
Nitre - - - - - half an oz.

Mix the several ingredients into a ball with honey, and give it; repeating it a second or third time, which will generally be found sufficient.

Should the bowels have been relaxed from the beginning, do not give the ball with the aloes, but substitute the following instead;

Cascarilla, powdered, - - two drams,
Tartarised antimony, - - one and a half dram,
Opium, - - - - - one dram,
Calomel - - - - - half a dram.

Form it into a ball with honey, and repeat it, daily, till the bowels are restored; when you may give the fever ball above prescribed.

DIABETES.—This is another disease of the kidneys, induced by feeding on musty oats, or bad hay, or by too frequent a repetition, by the groom, of the medicine termed “diuretic balls,” which some are particularly partial to giving.—It differs from the preceding disease, the jaundice, that being a morbid or sluggish action of the kidneys, in which the secretion of urine is not sufficiently active; while in *diabetes*, the very opposite is the case; here the kidneys may be said to do more than their healthy duty, and produce too copious an evacuation of thickened matter, rather than the usual thin watery urine of health.

The best way of curing this disease, is to allow the horse but little drink, and give him a change of food, and that of the best quality: should too free a use of diuretic medicine have been a producing cause, then a few small doses of aloes, given in combination with stomachics, and repeated till the bowels be opened, may produce the desired result; or the following stringent ball may be given with the best effects:

Galls, and alum, finely powdered, each two drams;
Peruvian bark, + - - - - half an ounce:

Make it into a ball with honey, and repeat it every morning, and if the disease be obstinate, twice a day, about every twelve hours, until the urine be diminished to its usual and natural quantity and quality.

In all cases of these kinds, after much medicine has been given to operate upon the bowels, the following restorative ball may be administered with advantage:

Powdered ginger,	-	-	-	-	two drams;
Gentian root, powdered	-	-	-	-	half an ounce,
Alum	-	-	-	-	one dram;

Made into a ball with treacle, and repeated two or three times.

INFLAMMATION OF THE LUNGS.—The term by which this disease is known among medical men, is Pncumonia. Its first appearances are—a shivering fit, extreme dulness, unwillingness to move, loss of appetite, and quickened breathing. If not removed, more decided symptoms succeed; as, coldness of extremities, oppressed pulse, expanded nostrils, considerable heaving of the flanks, purple tinge of the nasal membrane, redness about the eye, a fixed wide

position of the fore quarters; should he attempt to lie down, a great difficulty of breathing; countenance betokening pain, and mouth hot and dry.

The causes of this disease are, usually,—immoderate exertion, and suddenly-suppressed perspiration, induced by sudden changes from heat to cold, or the contrary.—The best method of cure is to bleed freely, from one to two gallons taken quickly from a large orifice, to give immediate relief to the head and arteries: in six or eight hours bleed again, but in less degree. If the horse faint before you take the quantity of blood, pin up the orifice, and give a clyster (see page 94), repeating it once or twice, if necessary; and if the bowels be not opened soon, give also the following drink:

Epsom salts - - six ounces;
 Castor oil - - four ounces;
 Coarse sugar - - three ounces;

Beat up the yolk of an egg into a pint and a half of tea, then well mix up the above ingredients into it, and give it milk warm. But if the bowels be not bound, then instead of the above, give the following.

Nitre - - half a dram,
 Digitalis - - one dram,
 Emetic tartar two drams.

Made into a ball with aromatic confection.

The horse, especially in winter, must be kept warm, not by hot air, but by a body cloth and hood, and his legs should also be bandaged,—hot air acts as a kind of poison, on fevers or inflammations, and increases every kind of inflammation; pure, cool, dry air, will assist; and in the course of a day or two the symptoms will abate, and the appetite will return.

DISEASES OF THE HEART, *principally arising from fulness of the blood-vessels.*—The diseases of which we are now about to treat will, perhaps, be better understood if we say a word or two upon that habit of the animal which is implied by the word *plethora*, a term usually understood to express a state in which the blood vessels are fully or even over charged.

In our brief remarks on the digestive process, (page 88), we showed in what manner blood was created and renewed in the system: keeping those remarks in mind, we would here add, that when the animal is supplied with a greater quantity of food than he really requires, the tendency of the increased quantity is to make the animal fat, unless by increased exertions required in return, that tendency is kept under, and the extra quantity of blood created is expended in the increased exertions to which the animal is subjected.

But when the habits of a horse become too suddenly changed, and he is subject to a change in diet as well as labour, the first effect of that change acts upon the blood: if the previous living was stinted in quantity, and of inferior quality, and the change for the better too sudden—the immediate result may be, not fatness, but a plethoric habit: more blood is created than the system can readily expend; the vessels become gorged, and disease is at once engendered.

A similar result is often seen when sheep are removed from a short bite to a rich pasture: in this case, the change is too sudden,—the *shot of blood*, as it is termed, is the immediate consequence, and unless, by a plentiful and ready bleeding, the effects

be promptly arrested, death is the speedy and inevitable result.

It is true, the horse does not experience exactly the same effects, nor to the same extent. In the ruminating animals, as the sheep and ox, plethoric symptoms are indicated by the body, or some part of it, swelling, and becoming puffed, as if inflated with air; in the horse, too rapid an increase in blood exhibits itself in inflammation of the eyes or lungs; the feet become attacked; or an eruption, termed the *nettle-rash*, or *surfeit*, ensues.—In this case, the hair falls off in irregular patches, and the skin becomes raw and pimpled. In the heavy cart-horse breed, the symptoms sometimes exhibit a tendency to *grease*, particularly in the hinder feet, which swell suddenly, and become lame, the inside of the thigh betrays much pain, and feverish symptoms ensue.

In all these cases, fever is one of the symptoms, and is generally indicated by the extreme rapidity with which the pulse beats. The first thing to be done, is bleeding, and this is best performed in the neck vein: blindfold the horse on the side on which you are about to bleed him, and with a moistened finger smooth along the course of the vein, selecting the point on which to operate about two inches below the angle of the jaw. At the same time, obstruct by a bandage the progress of the blood towards the heart. A good sized lancet or a phlebotomy should be used, as the rapidity with which the blood is drawn materially assists the operation. Receive the blood in a vessel in which the quantity can be easily known; from twelve to sixteen pints, according to the size of the horse, should be taken; in some severe inflammatory cases, even a larger quantity may be bled,

even to fainting. When you have taken sufficient, bring the edges of the wound close together, and keep them in that position by means of a small pin made of iron wire, passed through the edges of the wound, and retained by a little tow. Be careful not only that the wound is well closed, but that there are no hairs or other interposing bodies; or severe injury may ensue. Tie the head up for a time, and see that the horse does not injure the wound.

With bleeding, a purging or laxative medicine, must be accompanied, to remove irritation of the intestines, and diminish the watery part of the blood: mix up a ball, composed as follows:

LAXATIVE BALL.

Barbadoes aloes, six drams,
Croton bean - one scruple,
Calomel, - - one dram.

These ingredients may be mixed together, and formed into a ball, by means of a little linseed meal and treacle. On administering it, stand before the horse, having an assistant standing on the left side, to steady the horse's head, and keep it from rising too high. Seize the horse's tongue with your left hand, and drawing it out a little and to one side, place your finger upon the under jaw. With your right hand, carry the ball quickly along the roof of the mouth, and leave it at the root of the tongue: shut the mouth, and hold the head, till the ball is seen making its way down the gullet on the left side. If the horse appear to be loth to swallow, give a little warm water, and the ball will quickly disappear.

During that and the next day, his food should

be only bran mashes, given warm, a quarter of a peck being the quantity at each feed, the water, which may be given him freely, should be warm, with but little hay, and no corn. A little gentle exercise may be given, that afternoon, as well as next morning. *The bran mash should be given.* As soon as he has recovered, restrict his diet for awhile, and let him have a dry, spacious, and comfortably warm stable, but not a hot one, so that he may not again be attacked with a recurrence of these inflammatory complaints.

If the eye be inflamed, it will be advisable, in addition to the preceding treatment to wash with or inject into it the following mixture, once or twice a day,—but only until the inflammation is subdued:

Sugar of lead -	one dram,
Opium wine	one dram;
Water -	two pints.

If the feet betray any indications of grease, wash the parts twice a day with soap and water, and apply a solution of sugar of lead and sulphate of zinc—even in aggravated cases of greasy heel, this is found to be very efficacious. A little green meat and carrots will be an excellent occasional food for horses thus diseased, and a mash should be occasionally substituted for corn. Bandages are sometimes useful in this complaint, pressure often hastening the cure.

Where the *surfeit*, or *nettle-rash* has shown itself, moderate bleedings and laxatives, as the ball (page 103), are the best remedies; and to hasten a cure, let the horse be comfortably clothed, and see that he take proper but gentle exercise. Surfeit must not be confounded with or treated as *Mange*,—the latter

being a totally different disease, almost always the result of poor feeding, bad or damp stabling, or neglect.

VERTIGO.—There are several names for this disease; by some, it is called *giddiness*, and by others it is known under the term of *swooning fits*. It is something of a plethoric complaint. It most usually arises from too much blood being in the head, and usually attacks horses when on a journey; it is most common in hot weather, and especially in going up hill. When attacked, the horse appears to stagger, and sway from side to side; he leans on the pole, stops suddenly, and falls, or falls while running. If the driver be on the alert, the moment he observes a tendency to giddiness in any horse he is driving, he will stop up, and by so doing the horse will soon recover, probably an instant or two breathing time may effect this. If water be at hand, a few mouthfuls may be given, and if not be sure to see that the horse is cooled down by blowing him with water, and that he has a little cold water must be poured down his throat. If the horse is not recovered in a few minutes, he must be attended to immediately for a few minutes.

As soon as he is recovered, he should be attended to, and his bowels should also be opened by the laxative (page 103), and a more moderate feed substituted for a short time.

If this complaint be neglected, and no remedial treatment adopted, the temporary easement of the first symptoms, or if the horse, by habit, subject to such attacks, you may in either case expect it in a much more aggravated form, in which case it takes the name *Epilepsy*, or *falling sickness*,

and its results are far more dangerous to the driver as well as to the horse. In this attack, the horse rears up, and fall suddenly, or he reels for a moment and then falls: the muscles of eye are distorted by violent spasms, the breathing is affected, and the legs usually exhibit a violent action. The duration of the attack varies considerably; from a few minutes to an hour or more. Such a horse is truly dangerous, and no one who has the least regard to his safety, or who does not wish to see others in peril, will ever use an epileptic horse, when once he is satisfied that such has been the nature of the attack or fit. Many a rider has lost his life, and many a limb has been broken, by the horse being seized with this malady while on the road, or at his work.

As this disease is more severe than the preceding, so the means of cure must be more active, although in other respects somewhat similar to that prescribed for the cure of *vertigo*. A greater quantity of blood may be taken, and the ball may be more active in its properties, especially at first, say an additional dram, or even two, of the Barbadoes aloes may be had recourse to, and the purgative dose repeated a second or even a third time, at intervals of a day or two in between, and the feeding very moderate for some time. Such a horse cannot be trusted with plenty of good food, for good living to him is only productive of some of the worst consequences of a plethoric habit.

Apoplexy is another severe disease of this kind, but it is one to which few horses are subject, besides which, it is usually indicated by some previous symptoms, so as to give warning of its approach.—The first appearance is indicated by the horse hanging his head low, or supporting it by the manger:

he staggers even while he stands, and if moved seems about to fall: his sight and hearing are both evidently affected. After remaining thus for several hours, he falls, grinding his teeth, his eyes open, distended, and rigid; the pupil of the eye is dilated and somewhat convulsed: he is unable to swallow; and the dung is often voided involuntarily: the twitchings increase to convulsions, and unless assistance be rendered, and the symptoms abate, death inevitably results. The treatment to be attended to in this disease is that of copious bleeding, and the purgative or laxative ball, as recommended in the preceding complaint, *epilepsy*.

But the most frightful disease to which the horse is subject from a plethoric habit is that of *mad staggers*. It usually attacks well fed plethoric horses after great exertion and exposure to the mid-day sun. The symptoms and mode of cure are described in pages 92 and 93, to which we now refer.

FEVERS.—This disease, or rather the diseases known by this name, are of two kinds, the *symptomatic fever*, and the *low fever*, and they differ essentially, in symptoms as well as treatment, from the inflammatory class of diseases, which arise mostly from plethora, or fullness of blood; fevers, on the contrary, are as likely to attack horses in low condition as those in a better state. In most inflammatory diseases, blood letting is the first and principal means of cure, and that is followed up by a course of medicine which has the effect of reducing the plethoric habit, or tendency to over fullness of blood; in fevers, on the contrary, blood letting is to be more sparingly had recourse to, and sometimes its omission is preferable; and the other means of cure

are usually of a more invigorating kind, cordials, rather than laxatives, being then mostly administered.

SYMPTOMATIC FEVER.—The first symptoms of this disease, which is so gradual in its early stage as sometimes to escape notice for a time, are dulness and heaviness, the head hanging down, and a disinclination to move about, followed usually by chilliness, a staring coat, coldness equally on the surface as at the extremities, and often accompanied by a shivering fit: to these earlier symptoms succeed a warm skin; mouth hot and dry; eyes and inner membrane of the nose of a reddish appearance; pulse quick, full, and hard; respiration irregular and laborious, but rapid; loss of appetite, costiveness, urine high-coloured but diminished in quantity. This disease sometimes appears as an epidemic, affecting great numbers of horses, and leaving traces, after the best treatment, of the severity of its attacks; at other times, its appearance is more partial, and confined to particular districts, and even to particular horses.

Cure.—The first means of cure, in this disease, is a partial blood letting, not taking much blood at a time, nor repeating the operation too often; this should be followed by a mild laxative ball, prepared as follows:

MILD LAXATIVE BALL.

Rhubarb and aloes, - - - - - four drams,
 Annis seed powder, and Castile soap, each two drams,
 Linseed meal - - - - - two drams,

Mix it up with honey into two balls, and give one immediately after the bleeding; the other not till after four and twenty or thirty hours, and not then at all if the horse be purged to any extent.

If a draught be preferred, the following is a good one in this case:

LAXATIVE DRINK.

Barbadoes aloes, powdered, - three drams,
Carbonate of soda - - - - two drams,

Dissolve these in rather more than one-third of a pint of hot water, and add eight ounces of castor oil.

After either of the above has been administered, the fever may be reduced by the following

FEVER BALL.

Nitre - - - - - two ounces;
Antimonial powder - - half an ounce;
Liquorice powder - - one ounce;
Camphor - - - - - two drams;

Form these into two equal-sized balls, with honey, and give the second about eight or twelve hours after the first.

This treatment is usually effective, if warm mashes and warm water be given as soon as the disease is detected, and proper attention be paid to the stable management, particularly by making the stable itself clean, sweet, dry, and temperate in warmth, but not close and hot.

The following is an excellent restorative medicine, where much debility remains after the fever has subsided:

RESTORATIVE BALL.

Camomile powder - - - - - one ounce,
Carbonate of iron, and gentian, each, one ounce;
Antimonial powder, - - - - - two drams;
Opium, powdered - - - - - one scruple;
Oil of aniseed, - - - - - two scruples;
Mix with honey into two balls, and give one each day.

LOW FEVER.—The disease has often been mistaken for and confounded with other and more decided complaints; and this, perhaps, is scarcely to be wondered at when it is considered that it is the very disease which, under the name of *murrain*, and a host of other appellations, in former days, was looked upon as little less than a plague, and whose ravages were attended with such fatal consequences to the agriculturist; nineteen out of every score attacked, having fallen victims to its virulence. The progress of the disease is rapid, and the result too often fatal. In some cases, the lungs and heart are attacked; in others, the liver and bowels, while in some cases, the disease exhibited itself on some external part of the body.

From the preceding statement, it will be seen that the symptoms vary materially; they, however, usually take something like the following appearances: a general alteration in the circulation, and feeble, rapid pulse; weakness, prostration of strength, and determination of blood to particular but very different parts of the animal, by which pain is produced, with a tendency to inflammation, but not of any decided character. When this disease attacks neat cattle, it becomes *quarter-ill*, *black-quarter*, or *joint-felon*; and in the horse, it is not uncommon for the feet, particularly the hinder, to be affected.

Mode of treatment, and cure.—Local bleeding, but not to any great extent, from the vein nearest to the apparent seat of disease; but if the symptoms appear to be more general, then bleeding should be more in quantity, and may be taken from the neck vein; after bleeding, put the horse in a perfectly sweet cool stable, if in summer; or in one of only moderate atmosphere, if in winter: too much

warmth is more likely to retard than to accelerate a cure, but cold draughts or cold stables must be very carefully avoided. If feverish symptoms appear, the mouth becoming hot and dry, and the eyes and nostrils affected, give the fever ball, as directed in page 109, and afterwards, or when from the non-appearance of the feverish symptoms, the fever ball is not necessary, give at each dose, half an ounce of nitrate of potash, three times in the day, early in the morning, at noon, and again at night. This will cause an increased action in the kidney and bowels, and assist nature in her efforts to discharge the mucous acrimonious matter, which otherwise would ulcerate the nostrils. A clyster, composed of

Water, - - - four quarts :

Salt, - - - one large handful;

with a little hog's lard or sweet oil added, should be applied, and repeated, if the bowels be not open. The horse's diet should consist of either green food and a little sweet hay; or bran mashes, and a little sweet hay, corn must not, on any account, be given.

When the disorder is subdued, there will be found a considerable degree of weakness and debility left behind: to restore a healthy tone, the *restorative ball*, in page 109, may be given; but the food must be light, and easy of digestion, very little corn must be given for some time, and then with caution; for until the digestive organs have recovered their tone, corn will rather oppress the stomach, and prove a fresh source of evil: the nitrate of potash should be continued to be given, but in reduced quantity, say half an ounce at each dose twice a day, and after a week or two, only once a day, until the horse is restored to health: it is the best and most innocent diuretic medicine that can be given to a horse.

In some instances, where the symptoms have resembled that of a fever, or chill, it will be advisable, if the fever balls do not act as expected, to give the horse, twice a day, a dram of sulphate of copper made into a ball with linseed powder and treacle. This has proved an effectual remedy when the means usually employed in catarrhal affections did little or no good. The dose of sulphate of copper may be increased to a dram and a half, twice a day; but so soon as it makes the mouth a little sore and interferes with the appetite, it should be discontinued for a few days.

Under some circumstances, this complaint assumes something the appearance of *glanders*, except that it is not contagious. In this stage, sulphate of copper is, perhaps, the best remedy.

DISEASES OF THE DIGESTIVE ORGANS. CONSTIPATION. We call this a disease, but it is rather the source of disease. All domestic animals are subject to it, and persons having the charge of domesticated animals, should endeavour, by proper, regular feeding, to preserve health, of the presence or absence of which, the well-regulated appetite and due performance of the digestive process, afford proof, not likely to deceive.

Referring to our brief sketch of the digestive process, (page 88), the intelligent reader will be at no loss to understand that when any of the important digestive organs becomes impaired or enfeebled, the digestive process itself, that by which new blood is created, and nourishment thereby conveyed to every part of the animal, is interfered with, the quality and quantity of the blood impaired, and disease more or less, is the result.

A *loss of appetite* is one of the usual early evidences by which indigestion is detected, but this cannot always be depended upon. We must, therefore, rather judge of the symptoms by the effects, and, by these means, the real cause of the obstruction—for such it is, of the digestive process, may be better ascertained, and the more eligible and appropriate remedy applied.

Any thing which interferes with mastication, or properly chewing the food, is injurious—hence, eating too fast, or the stomach being overloaded, is likely to produce indigestion. In eating too fast, the important office which the teeth have to perform, that of *well chewing the food*, and thereby intimately mixing it with the saliva, or spittle, is very imperfectly done, and the food is consequently swallowed in a crude unprepared state for the further processes of digestion. When the stomach is overloaded, particularly if the horse has previously endured a longer fast than usual, the powers of some of the vital organs are exhausted, and a *surfeit* takes place.

Over drinking is another cause; generally, horses have not water enough given them, but are allowed to get very thirsty, and they are then likely to drink too largely when they feed; in which case it is apt to force the food from the stomach before it has had time to undergo the proper preparative process required to fit it for digestion, and *fermentation* often ensues. Putting a horse to hard work on a too full stomach, will produce indigestion; as in this case the weakened organs are oppressed; and the food, not undergoing the necessary digestive change, forms a load dangerous to the animal. and produces the

worst symptoms of fermentation. One of the frequent consequences of this stage of the complaint, is *acute foot founder*. Another cause, somewhat similar in its results, is that of horses feeding on impure hay or old high-grown grass; the fibrous particles mat together, and accumulate in the rectum, or that hinder part of the bowels of the horse, into which clysters are injected; and unless removed, and the digestive process restored, the worst results may be anticipated. And, lastly, we may notice, *acidity of the stomach*, and impurity of the stable, that is, either a neglected, dirty, or wet stable.

Having thus detailed the principal causes of indigestion, we shall now give the more immediate symptoms arising from the several causes, adding the means of cure in each case.

In cases of overloaded stomach, when fermentation ensues, the most fearful consequences may be produced. The horse may be seized on the road, and if pushed too fast, it may cause certain death. He slackens his pace, wishes to stop, and attempts to lie down; or falls as if knocked down, the moment he stops. If at slow work, he seems unwilling to stand, and sometimes he quickens his pace. In the stable, he paws with his fore feet, lies down, rolls over, or lies on his back. If the stomach be not much distended, he may be rather still for two or three minutes; but when it is, he is particularly restless, no sooner down than he rises again, starting all at once, and again throwing himself down violently. He strikes at his belly with his hind feet, turning his eyes towards his flanks, as if conscious that there was the cause of his pain. If not relieved, the symptoms increase in violence, the pain becomes more intense; the perspiration is profuse,

the belly is swollen, and the agony of the animal's sufferings appears extreme; till death puts an end to the animal and its sufferings together.

Remedy.—The means of cure are first to arrest the fermentation, and then to restore the digestion to a healthy state; to do this, give a drench composed of powerful stimulants and carminatives, as either of the following:

Linseed oil (raw) - - - - one pound in weight;
Oil of turpentine - - - - two to three ounces.

or,

Hartshorn, - - - - eight to twelve drams.

or,

Chlorate of lime, - - - - eight drams.

Given in a little warm water.

A clyster may be given, if the symptoms do not abate, or if the medicine does not operate beneficially: let the clyster be composed of

Weak, warm gruel - one gallon;
Soft soap - - - - two ounces;

(If soft soap cannot be readily obtained, substitute two handfuls of salt);

Aloes - - - - two ounces.

Inject this by means of a bladder and pipe, taking care to oil the pipe well, and gently insinuate it, before you force up the fluid.

If this clyster does not speedily produce the desired effect, you may conclude that the rectum is clogged with some hard indigestible mass, which can only be removed by the hand, and the sooner this is done, (as described in page 94), the better.

In half an hour, or a little more, if no relief has

been affected, a second dose may be given, and if that fail, in another half hour a third dose may be administered.

Where the symptoms are not so violent, and loss of appetite is the principal indication, the following tincture (which should be kept ready prepared for use) may be given, and will usually prove sufficient, with a few warm mashes and proper stable attention:

TINCTURE FOR INDIGESTION.

Good spirits, whisky or brandy . . . one quart;

Ginger and cloves, of each . . . three ounces;

Put them in a stone bottle, and let them stand at least eight days, that the spirit may extract all the virtue from the ginger and cloves: then add, of

Sweet spirits of nitre four ounces.

Half a pint of this tincture is a dose, given in two pints of warm water.

If you have not prepared the above, and the case be urgent, give .

Of spirits, whisky or brandy—half a pint diluted with a pint of warm water, adding thereto one to two ounces of tar.

But observe,—in both these cases, when the drink or tincture has been given, the abdomen or belly of the horse should be well but gently rubbed, the animal walked slowly for a time, and then be allowed the benefit of a good bed, so that he may have room to roll about. This is the complaint or origin of that known as the Colic, Gripes, Inflamed bowels, Acute indigestion, Spasmodic colic, &c. *Inflammation of the intestines*, (see page 95), is nearly similar to this disease, and the treatment prescribed in page

96, for that case, will do in this, if the symptoms appear to correspond with those there stated, (see page 95).

SPASM, OR, CRAMP OF THE INTESTINES.—The principal causes of this complaint, somewhat resembling the preceding in some of its stages, are, drinking profusely of cold water while the horse is heated, sudden exposure to cold and damp, or obstruction in some internal part, probably from overeating of green food. It comes on suddenly, and the pain in the part most affected is intense.

Symptoms—the animal seems all at once uneasy, he shifts his position, turns his head towards his flank, pawing violently as he does so, strikes his belly with his feet, lies down, and rolls about. In about three or four minutes the pain appears to abate, the horse looks round, shakes himself, and resumes his feeding; but again, on a sudden, the spasm and its accompanying painful symptoms occur; followed, after a time, by another interval of comparative ease, and again succeeded by another fit; and so on, until, unless relieved, it terminates in violent inflammation of the heart. It, however, differs from the preceding complaint, and also from inflammation, in there being no previous cold fit, in the pulse being but slightly affected, and in there being brief intervals of relief.

Mode of cure.—As soon as you perceive the symptoms, and distinguish by the absence of the cold fit, &c. as just described, that it is the spasm, or cramp, that has attacked the horse, at once prepare and give him the following

ANTI-SPASMODIC DRAUGHT.

Laudanum - - one ounce and a half;
Turpentine - - three ounces;
Lusced oil - - one pint.

Mix, and give it, and it usually affords prompt relief. If, however, the symptoms do not abate in a short time, let blood more or less according to the size and condition of the horse, taking from six to eight pints apply a fomentation of warm water to the belly, and give a laxative ball, (see page 103), and, if necessary, a warm clyster (see page 115) may be injected, corn should not be given for a few days; the horse should be kept warm and comfortable, and have a little gentle exercise: in three days, he should be able to resume his usual work.

As an excellent means of preventing some of these diseases, we should advise a rigid care in keeping the stable sweet, clean, and well ventilated. A large piece or block of *chalk* should be kept in the stable, where the horses may get to it occasionally, to lick or bite it: it is a means by which *acidity of the stomach* may be corrected, instinct being sufficient guide to the horse in the use of it. In like manner, a large lump of bay salt should be kept in some part of the stable; the horse will often lick at it, and by so doing keep his blood in a healthy state.

DISEASES OF THE LIVER.—We have briefly described, in page 97, the important use which the liver serves in the animal structure. It has another purpose to perform, and that is, to form bile, and thus purify the blood: if therefore the liver be diseased, its operations become somewhat disturbed, and the blood is thereby affected. Impure or deficient food, or exposure to wet and dirt, particularly in the stable, is very likely to injure the liver. *Inflammation of the liver*, is one of the consequences, in which the liver suffers, and mostly from one or more of these causes. Its symptoms are rarely very plain, but still the disease sufficiently manifests itself

by the eyes assuming a yellow appearance, which hue also communicates itself to the mucous membranes of the nose; the urine is discoloured, and there is usually a pain in the right shoulder. If these symptoms be not attended to, the disease assumes a more decided character, and settles into *chronic inflammation*.—The eyes now become more languid; an indifference to food and evident unwillingness to move, succeed; with yellowness about the mouth and nose, and an unsightly coat; the urine is highly coloured, and the dung loses its natural and healthy appearance, and becomes lighter or darker, as more or less bile affects the system.

Cure.—The same course of treatment as that prescribed in page 97 for the cure of *jaundice*, or *yellow*s, is as good for either of these complaints; but the sooner the bleeding and laxative ball are administered, the better; too long delayed, the disease becomes obstinate, and the cure is protracted.

CHOKING.—This, though not properly a disease, may here be treated of, because a knowledge of how to relieve the horse, when so attacked, may probably be the means of saving the life of a useful animal. Horses put to heavy draught, or road work, in coming to a dead up-hill pull, are likely to choke from the pressure of the collar on the windpipe. As, in swallowing, the food passes down the gullet, its further progress is intercepted by the collar, the consequence is, the windpipe is compressed, and the horse falls suddenly from choking; he may or may not stagger before he falls; but unless instantly relieved, assistance will be too late to save the horse's life.

The moment, therefore, that a horse in pulling up hill, appears to stand or stagger, the eye of the

driver should be on him; and if the slightest indication occurs of an attack of choking, the collar should be thrown off the windpipe, and he should be allowed a few minutes breathing time. But as prevention is much better than cure, it will be most advisable not to take a horse out to road or draught work immediately after eating, or upon too full a belly; nor should a driver give a horse hay on a hilly road.

DISEASES OF THE THROAT AND CHEST.—There are several diseases to which the breathing or respiratory organs of the horse are subject, known under the terms of *whistling, wheezing, roaring, blowing, grunting, and broken wind*. They partake, more or less, of the same character as the several stages of asthma in the human being, and are equally distressing to the horse as the difficulty of breathing is to mankind. Tight reining is often a cause of one or other of these complaints; and over exertion, when a horse is not in good condition, may and often does produce the worst of these oppressive consequences.

As soon as any indications of a cold, or difficulty of breathing, are detected, a little gentle medicine, and a few bran mashes should be given; if the veins be full of blood, about four to six pints may be taken away with advantage. The course of cure prescribed in page 90, for a catarrh, or cold, will be good in most of these cases. As to *Broken wind*, it may be regarded as incurable as the asthma; all that can be done, is to soothe, by an occasional course of mild medicine, as in page 90, the worst symptoms.

STRANGLES.—This also is a disease of the respiratory organs, and its attack is so general, particularly to young horses, and colts, that few escape. It may indeed be regarded as one to which their

early years are subject. It usually makes its appearance at the age of four or five years, particularly if about that period the animal is afflicted by any cold or other disease of the respiratory or breathing organs. It may be considered as a severe catarrhal affection; its name, that of *strangles*, is probably derived from the sense of suffocation which it usually produces, and it differs from common catarrh in the appearance of the glands of the lower jaw and throat, which, in this complaint, are more swollen and tender than in catarrh, becoming distended with a watery kind of matter, and feeling, after a time, more firm, solid, and hot: this terminates in an abscess, generally of the throat, though sometimes some other part of the body is similarly affected. The cough, and redness of, and discharge from, the nose, which usually accompany all catarrhs, are also present in this complaint.

The best means of curing the *strangles*, is to promote suppuration of the part affected, or, in other words, to bring the abscess to a head, and after causing it to break, or opening it with a lancet, when fully ripe, to heal it by the means directed in the following mode of treatment.—First apply a mild blister, which you may obtain from any cattle doctor, to the part affected; and afterwards poultices made of linseed meal and warm water; but before you put the poultice on, anoint the inflamed tumour with an ointment made from the following ingredients.

Elder ointment, and marshmallow oint-

ment, of each	- - - -	three ounces;
Camphorated spirits of wine	- - -	two ounces;
Carbonated liquor of ammonia	- -	one ounce;
Bees'-wax	- - - - -	one ounce;

To prepare this for use, first gradually melt the ointment, and while hot, put in the other ingredients, stirring them to mix intimately, till cold. The use of this ointment is to soothe the pain arising from the tender and swollen glands; besides which, it assists nature in the ripening of the abscess.

It is essential, in this disease, to have the horse in a sweet, clean stable, of a temperate warmth, but not hot or close, and to give him warm mashes and warm water. If it be winter time, it will be advisable to keep his neck and body warm. When the disease is mild, this mode of treatment will be sufficient,—As soon as the tumour is fully ripe, if it do not break readily, have it opened with a lancet; and afterwards dress it, daily, with the following

DIGESTIVE OINTMENT.

Venice turpentine - - - - - six ounces;
 Yellow basilicon - - - - - twelve ounces;
 Red precipitate, in fine powder - three ounces;

The turpentine and basilicon should be melted, and when nearly cool, the precipitate may be added, gradually, stirring it till stiff, to incorporate the whole well together.

After the abscesses have healed, a mild dose of physic, (that prescribed in page 103, for instance), is of great advantage; and assists in restoring a healthy tone to, and improving, the digestive organs. A tonic medicine may follow, if debility remain, after the complaint has subsided: the following will be found good for this purpose.

TONIC BALL.

Peruvian bark, and chamomile, of each, two ounces;
 Gentian - - - - - half an ounce;
 Sulphate of copper - - - - - four drams;

Divide this into four equal parts, and adding ten drops of aniseed to each portion, mix it up into a ball with honey. Give a ball, once a week, for four successive weeks.

If, however, in the progress of the disease, strong inflammatory symptoms appear, accompanied by considerable constitutional derangement, a quick pulse, and disturbed breathing, the horse should be bled, and from six to eight pints of blood taken from him; and some fever medicine given him, prepared as follows:

FEVER MEDICINE, FOR THE STRANGLES.

Nitre, - - - - one ounce;
 Antimonial powder - four drams;
 Camphor - - - - one dram;
 Liquorice powder - half an ounce;

Mix these in a little warm thick gruel, or thin treacle, made warm, and give it to the horse by means of a horn; or put it into a mash, which is the best plan, if he will or can eat.

Should suffocation be likely to take place, from the swelling of the glands, which is sometimes, though rarely the case, and perhaps only when the first inflammatory symptoms are disregarded or not moderated by bleeding, the operation, termed *bronchotomy*, or *tracheotomy*, is essential. The operation is simple, and effectual; but it is one which none but the practised veterinary surgeon should attempt, as it is one in which an opening is made in that part of the throat called the *trachea*: his assistance should therefore be called in this case. This operation is also useful to the *roaring horse*, often relieving his roaring for months, although not sufficient to effect a cure.

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FARCY.—This is a disease of the absorbents—those internal organs, the proper action of which carry on the digestive process, and promote the animal's health, but which, when impaired or diseased, produce a derangement of the healthy functions, and terminate in some chronic disease, or end in death. The peculiar characteristic of farcy is, that it is the first symptoms of a disease, which if not the same as glanders, is marked in several respects as very similar, and ultimately terminates in that contagious and incurable scourge of the stable.

The first appearance of farcy is indicated by small tumours, or hard lumps, with a sort of communication like corded veins, these lumps usually appear on the inside of the thigh and fore legs, but are not necessarily confined to these parts, sometimes appearing upon the shoulder, about the ribs on the cheeks, and other parts of the body. These lumps somewhat resemble what are termed *milium lumps*, but differ from them, when they break, instead of gradually drying up, and getting well, the farcy buds, when they burst, forming a small peculiar kind of ulcer, which, if not removed by the proper means, become larger, more numerous, and very offensive, until the horse is glandered—the too general result of this pestilential disease.

This disorder rarely yields to medicinal treatment, from the reason, perhaps, that its real seat is internal, and has taken hold of the system even before its external appearance is indicated. However, as it has been successfully treated, we will suggest that, if the horse be worth the expense of a cure, the attempt be made; but it should be under the advice of a veterinary surgeon, as requiring more skill and

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experience than usually fall to the share of the groom.

GLANDERS.—This is the most malignant, most pestilential, and most incurable disorder to which horses are subject, and is as fatal to them as hydrophobia to dogs; it is also highly dangerous to the stable helpers, being, like canine madness, communicable to the human subject, and equally fatal to them as to the animal by whose deadly bite the inoculation takes place.—Its contagious character is another of its fearful accompaniments, rendering it the bane of society, the scourge of the stables, and the ruin of many a horse proprietor.

Our suggestions in reference to this pestilential disease, will be as to the means of prevention or detection, for as to cure all attempts would be useless, and any advice would therefore be superfluous.

The principal means, by which this disease is communicated, is by contagion. Hot, impure, and dirty stables may and no doubt have induced it; and excessive work, with poor living, may also so impair the animal's constitution as to predispose it to receive this or any other infectious disease.—Supposing, however, the horse to be sound, and moderately well kept and attended to, and his stable clean and well ventilated, we may then assert that, although a horse be brought into immediate neighbourship, (as in a team together), but not into actual contact, with another attacked with glanders, the disease will not be communicated to the healthy horse, except by positive contagion, or rather inoculation.

Most persons understand that inoculation means the conveying into the blood, or some other of the internal vessels or organs, the virus or matter taken

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from some other animal or subject.—Now, in the case under consideration, we will suppose that the infectious matter exists, and may have tainted the water-pail, the manger, or other part of the stall, or the like, particularly as the running from the nose of the glandered horse is very contagious. A sound horse is introduced into the stable, and drinks out of the same pail, or trough, or eats from the same manger, or his nose touches or he rubs himself against some part of the stall which has been in contact with the diseased horse; the moment the contact takes place, the absorbent or sponge-like action ensues, either by means of the nostril receiving the infectious virus, or some part of the skin being injured, the inoculation is made, and the sound horse will, in a very short time, exhibit ample evidence that the contagious characteristics of this fell disease have been communicated.

This disease, incurable as it is ascertained to be, is not however equally rapid in its progress in all horses; in some its deleterious poison is speedily conveyed over the whole system, in a very few weeks, and the result is speedily fatal; while in others it progresses so tardily, that the animal appears scarcely to suffer by it for a considerable space of time; its result, however, even in these cases, is equally certain, although more remote, and after undermining the constitution of the animal, will eventually cause his premature dissolution.

The moment that glanders is believed to have made its appearance, be careful to separate the suspected horse from the rest, and under no circumstances permit any of the others to come into contact with him: the manger he eats from, the pail he drinks from, the brush or comb used in dressing him,

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must all be kept from touching any other horse. In a few days, perhaps a week or two, your suspicions will be removed or confirmed. If it be glanders, a perceptible prostration of constitutional vigour will be apparent, the membrane of the nose will be ulcerated, and will have a glutinous discharge, and the lungs will subsequently be ulcerated; little if any fever appears in this disease; and in this respect it differs from other diseases in which the nostrils discharge a mucous (not glutinous) discharge. A test is recommended, to prove the fact of glanders, or not, which is to let the matter from the nose drop into a pail of water—if it be glanderous, but not without, it will sink to the bottom. This, though not an infallible test, is a very good one.—However, as soon as you have good reason to believe that glanders really does exist, call in the veterinary surgeon, and act under his advice; or if the animal be not worth the expense likely to be incurred, (a cure cannot be for a moment calculated upon,) let the next consideration be to terminate the glanders and its existence together.

MADNESS.—The disease we are now treating of is one that, properly speaking, is not included among those which usually affect horses; it is, in fact, the *rabies*, or *Canine madness* of the dog; and the *hydrophobia* of mankind.—It is not introduced for the purpose of professing to prescribe a cure; for a cure, where the disease has really exhibited itself, is out of the question,—it is incurable, and death is the inevitable result. But as it is equally communicable to the man and the horse, it has a place here, with the distinct object of enabling the stable men and

others to detect the earliest symptoms of this dangerous and fatal disease.

Assuming that madness must be communicated by a bite from a rabid dog, we may presume that it is generally known when such an accident has occurred, and therefore that all parties concerned are warned, and keep an eye upon the horse, in order to detect the first appearances of the disease.—But it may be that they are not so warned; in which case, the moment any symptoms appear, which at all resemble those of madness, the horse should be watched, and every means taken to prevent the direful consequences that too often result.

The symptoms of madness in the horse, are—All at once, while at work, and apparently well, he will stop, paw the ground, tremble, heave, and stagger; in a few minutes he will fall, and as quickly rise again, and again commence trembling, heaving, pawing, and falling. The symptoms increase in violence, and that very rapidly; he kicks and plunges in a furious manner, and often attempts to seize with his teeth whatever living being comes in his way, foaming, sweating, and plunging at every thing around him. His thirst becomes excessive, while the power of swallowing appears difficult. The third day usually brings the disease to a termination in death.

Although, as we have said, there is no real remedy for this dreadful disease, yet we would advise, where a knowledge exists of a horse having been recently bitten, that every means should be tried to get rid of the poison. Wash the wound, or part marked by the tooth of the dog, very freely, ~~and~~ firmly between that part and the heart, so as to weaken the circula-

tion of the blood, and then send for a veterinary surgeon, who should cut or burn the part freely. Blood-letting should also be tried; and even an injection of water into the blood may be useful. But if all the endeavours be unsuccessful, and symptoms of madness appear, let every means be taken to avert any danger to the building or to those in attendance. Perhaps shooting the animal would be the best and most certain plan.

LOCK-JAW, or, TETANUS.—This, like the preceding, is a spasmodic disease, which usually terminates fatally: it mostly originates from accident, where some tendon is affected by the irritation proceeding from a cut or wound, from dorking the tail, or from some similar cause, by which a general contraction of the muscles is induced.

The earliest symptoms are, unfortunately, not strongly marked; at first, the muscles of the jaw are affected, and this extends itself to those of the neck, spine, and extremities. The horse does not feed as before, and when he endeavours so to do, he drops his food, but gulps down water: the head cannot turn, but when elevated, the body of the eye seems to sink completely in its socket: spittle runs from the mouth, and the jaws are found to be fixed; the back and loins are stiff, the ears rigid and immoveable, and the tail erect; so that he cannot turn in a confined space, and even if in a roomy one, he seems to be one solid substance; the pulse, at first but little affected, soon becomes quick and irregular, he labours at breathing, and the appearance of the countenance gets wild, and expressive of agony.

As to the mode of treatment for lock-jaw, but little hope can be entertained for any other than a

fatal result, but still, as remedial means have prevailed in some few cases, it is worth an endeavour.

First, bleed the horse copiously; bleed until he faints or falls the sure guide to know whether enough has been taken is the pulse, so long as that feels firm and unfaltering, blood may be taken. by this means, the jaw may be so far relaxed as to enable physic to be administered. Half an ounce of Barbadoes aloes, and one dram of croton seed may be now given, and if it can be conveyed into the throat, it will prove useful but whether or not, a clyster, composed of four ounces of Epsom salts dissolved in two pints of warm weak gruel, will be essential. The aloes and croton seed should be repeated the following day.

It should be borne in mind that while this disease prevents the horse eating, it does not prevent hunger, and therefore every means should be exerted by which nourishment may be administered. If a plentiful warm wet mash, or some good gruel be placed before him in a pail, he will plunge his nose into it, and contrive to extract some nourishment from it. By a small horn or a flexible pipe some gruel may, perhaps, be conveyed into his mouth.

If the disease appear to abate, continue your exertions, and probably the reward of those exertions may be the saving an useful animal from starvation and a lingering death. Great care must be taken, even after the spasmodic symptoms are removed, as a great weakness is the invariable consequences of this disease

WOUNDS.—Having treated of the principal internal diseases of horses, we shall now say a few words on wounds: here cause and symptoms are not necessary, the wound furnishing evident proof of its nature and existence; our remarks will, therefore, have only reference to the means of cure.

Wounds are—simple, as cuts, or the like; or compound, as broken and lacerated: the first are easily treated; little else being generally necessary than to bring the divided parts together carefully by means of the needle and thread, and a few stitches through the skin only: an adhesive plaster should then be fixed on the sides of the wound near its edges, after which it should be dressed with Friar's balsam, or tincture of aloes, and the whole secured by a bandage.

Where the ends of the wounded skin are so far apart as not to admit of bringing them together by the needle and thread, apply a poultice or fermentation; and if the part form into a swelling, and be about to break, you may accelerate this by using the following digestive liniment:

Olive oil, fresh and good,	four ounces.
Spirits of turpentine,	an ounce and a half.
Tincture of camphor,	one ounce.
Tincture of opium,	one ounce.

When you make this, mix the whole well together with the yolk of a fresh egg, and bottle it for use.—Apply it freely, warm, to the wound, but do not touch the surrounding swelling,—that must be bathed with evaporating lotion. When the wound has broken, wash the part clean with warm water, and dress it daily with Friar's balsam. If proud

flesh appear, it must be kept down by a careful application of some caustic, which you had better purchase where you can ask advice how to use it.

Compound or fractured wounds require a different and more careful treatment, and the aid of the experienced farrier or veterinary surgeon ought, in these cases, to be called in,—it is generally the cheapest, and always the safest, mode of proceeding.

If the horse be slightly bruised at any time, the following application will be found useful, if well mixed together and applied.

Vinegar and spring water, each,	-	-	-	six ounces.
Sal ammoniac	-	-	-	two ounces.
Tincture of camphor, each,	-	-	-	two ounces
Tincture of aloe	-	-	-	one ounce.

Wounds are often attended with local inflammation, that is, the part injured becomes hot, swollen, and painful, it is, in this case, said to be inflamed. When inflammation is thus local, and external, warm fomentations, or poultices, (which is a kind of fomentation), or cold applications, may be applied with advantage, according to circumstances. Fomentations, by opening the pores of the skin, promote perspiration, and so decrease the swelling, and lessen pain, while cold applications promote evaporation, and so assist in restoring health to the part affected.

Clean hot water is the best FOMENTATION: it should be used as hot as can be without paining the horse, continue to foment the part affected for some time, having a fresh supply of hot water: half an hour is the least time a fomentation should be continued. A sponge is useful to foment with, especially if the leg be the part to be fomented.

The good effects of this fomentation will be lost, if the process be not continued long enough, and a continued supply of hot water furnished. It is upon the continued warmth of the water used that the goodness to be derived from the process depends; when sufficiently fomented, clothe the part, so as to retain the warmth till thoroughly dry; or the coldness that will succeed will prove injurious, by the check which it will necessarily give to perspiration.

Fomenting the legs of a horse, after a day of extraordinary exertion, is useful, and may be used with much advantage to the animal.

POULTICES.—In most kinds of wounds, poultices are particularly useful, as they reduce inflammation, allay pain, and tend to cleanse and heal the injured part: in broken knees, they are especially good, as well as in all injuries of the foot. Moisture and warmth are the essential qualities of poultices, and it is from these qualities that the benefit is obtained. Those articles, therefore, which the longest retain heat, are the best for the purpose. They should be applied as warm as they can safely be borne; but not too hot, or unnecessary pain is inflicted, nor tied on too tight, [a too common practise,] or the circulation of blood may be impeded, and the inflammation increased thereby.

Linseed meal longest retains both heat and moisture, and therefore forms the best material for a poultice: even when any other ingredient is preferred, some linseed meal should be used with it. Mashed turnips, crumb of bread, or thick oatmeal gruel, are all good. Warm bandages often renewed, act something in the same manner.

If there be much inflammation in any injured part, it will be advisable that a decoction from poppy-heads, made by steeping a few bruised poppies, should be used, hot, in mixing the linseed meal. If the object be to promote a healthy discharge from a foul ulcer, two ounces of common turpentine may be added to a pound of linseed meal; if it smell offensively, a little very finely powdered charcoal may be added. Mashed carrots, with a little very finely powdered charcoal, is an excellent poultice for grease or cracked heels. Chloride of lime, diluted with about twenty times its own bulk of water, is very useful, to assist in mixing up poultices, where any offensive smell proceeds from the wound.

Where LOTIONS are necessary to bathe a wound or inflamed part, the following may be used with good effect.

Super-acetate of lead	-	-	-	two drams;
Sulphate of zinc	-	-	-	two drams;
Water	-	-	-	half a pint.

If an additional half dram of super-acetate of lead be used, and the mixture well filtered through a bit of cloth, or fine sieve, it makes a good lotion for an inflamed eye.

Or, very useful in inflammations.

Sal ammonia	-	-	-	half an ounce;
Distilled vinegar	-	-	-	two ounces;
Spirits of wine	-	-	-	four ounces;
Spring water	-	-	-	eight ounces.

Old water, with one sixth its bulk of vinegar, or a similar quantity of brandy, makes a very good cooling lotion.

BLEEDING—Is useful in most inflammatory attacks, in severe wounds, and in other cases when fever is likely to present itself. The neck vein, and the thigh vein, are the parts from which the greater quantity of blood may be taken; but the eye vein or toe vein are also occasionally had recourse to, when the disease requires rather local bleeding than a copious discharge of inflamed or heated blood.

Theoretical advice will be but an indifferent guide to the proper position of these veins; while a few practical lessons from an experienced person will tend to prevent injury, and teach far better than written suggestions.

The natural pulse of the Horse beats from 35 to 45 in the minute. in fever and inflammations, it rises higher, sometimes to 80, 90, and even 100. The pulse is the most important indicator of any deviation from health; the most convenient spot to examine it is at the edge of the lower jaw, a little before the angle.

GOOD BALL FOR REMOVAL OF WORMS.

Emetic tartar	- -	ten drams,
Best sulphur	- -	five ounces,
Ethiop's mineral	-	three ounces.
Powdered cascarrilla		two ounces.

Mix these up into six balls, and give one each morning, fasting; let the horse have only slightly warmed water for a few days, and an occasional warm mash.

Do not work him much while he is under this treatment.

BROKEN KNEES.—When an accident of this kind happens, the extent of injury should be at once ascertained by close examination. Whether slight or severe, the first best thing to be done is to cleanse the wound well with warm water. If slight, it may be sufficient to bathe the knee with Goulard's lotion three or four times a day; but if severe, the torn surface may be dressed with compound tincture of myrrh, with the addition of a pledget of digestive ointment, (see page 122), secured by a bandage. If much swollen or inflamed, repeated poultices must be applied; but if only triflingly so, then bathing with Goulard's, or any other evaporative lotion, will be sufficient. Should proud flesh appear, it may be dispersed by a little blue stone, or burnt alum. In inflamed cases, a little blood may be taken from the plate vein. If the wound be severe, the limb should be moved about as little as possible, as rubbing the injured bones on each other is likely to produce inflammation, as well as giving needless pain to the animal. The principal object to be kept in view, should be, after well cleansing the wound, to close the cut or orifice as soon as possible, and prevent inflammation and fever by blood letting and a little gentle opening medicine, as the laxative drink, page 109.—Perhaps, if the edges of the wound be evenly cut, and not jagged, a stitch or two, to unite them together, will be advisable. These means, added to bandaging and a complete state of rest, with careful stable attention, will effect a cure; and if the wound was not very severe, leave but little ill consequences behind.

THE END.

